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THE RAILWAY GAZETTE
33, TOTHILL STREET, WESTMINSTER, S.W.1.

T.U.C. and the Profit Motive

ON Thursday in last week the Trades Union Congress overwhelmingly rejected a resolution demanding statutory control of profits and dividends. Sir George Chester, Member of the General Council, emerged as a defender of the profit motive, declaring that marginal surpluses or profits are essential to the conduct of industry, whether nationalised or privately owned. Dependence on this incentive was inescapable until it could be replaced by some other kind of incentive. Another resolution, which also met with heavy defeat, calling for the immediate nationalisation of steel, resulted in a discussion which served only to emphasise once again the efficiency of the industry and the ability of steel workers to break all output records under private enterprise. Though the T.U.C. endorsed the Government policy on wages, prices, and profits, little was heard from speakers on the General Council of the wage claims which the unions have continually brought forward since publication of the White Paper.

* * * *

Increasing Productivity in the Steel Industry

An article in the current issue of the *Monthly Statistical Bulletin* of the British Iron & Steel Federation shows that the output per head in steel melting and rolling for the second quarter of 1948 was 28 per cent. above pre-war level. Wartime figures have not been worked out in detail, but, generally, they show productivity at about the 1938 level, and since then, the increase has been steady, except for a temporary check in 1947 which can be attributed mainly to the fuel crisis. For 1946 and 1947 the increase was 14 per cent. above 1938. This improvement has made it possible to confine the increase in the price of steel to 69 per cent. above pre-war, despite increases of 107 per cent. in wages and 80 per cent. in raw materials. Benefit has thus been shared by the workers in the industry and the consumers of its products. Special interest attaches to this achievement in view of the appeal by Sir Stafford Cripps for increased productivity in general and the rejection by the T.U.C. of the resolution calling for the immediate nationalisation of the steel industry.

* * * *

Record August Steel Output

The output of steel in August, equal to a rate of 14,117,000 tons a year, was the highest so far recorded for that month, the previous highest rate for August being reached a year ago, when the output was 12,179,000 tons. The output for July this year was 12,084,000 tons. This latest output was achieved despite the holidays in the first part of the month, and, with the summer holiday season now over, the rate of output for the year to date at 14,650,000 tons is above the target rate of 14,500,000 tons. For the second part of August the output of steel ingots and castings was again fully back to the pre-holiday rate of over 15,000,000 tons. Pig-iron production in August was at the annual rate of 9,048,000 tons, which compares with 8,908,000 tons in July and 7,657,0000 tons for August a year ago. Further improvements in output are expected when the benefits of present development plans are secured.

* * * *

Future of Irish Transport

It is believed in Dublin that Sir James Milne's report on Irish transport will be ready by the end of this month, and will be submitted to the Government without delay. In view of the very difficult situation which has arisen in dealing with transport in Eire, lively interest is being shown in the report. Because of the special circumstances obtaining in Ireland, where politics, local interests, and labour forces are all strong factors, the difficulties which may arise in implementing any controversial recommendations are fully realised. On the other hand, it is clear that drastic measures may be required if any real progress towards financial stability is to be achieved. It is probable that Sir James Milne, as an independent investigator of high reputation in transport, will be able to make stronger and more sweeping recommendations than would have been possible by any authority inside the country. The likelihood of general acceptance of measures which may be unpopular is also increased because of Sir James Milne's standing.

Some of the Difficulties

Among the points which are almost certain to be discussed in the report are the problems arising from rolling stock shortage and the inability in present circumstances of undertaking new construction on any scale likely to ameliorate the present position. Much of the coaching stock is overdue for renewal, but supply difficulties prevent any inroads being made on arrears of replacements. The highly-controversial question of the closure of branch lines and the extension of road transport facilities is expected to occupy a prominent place in the report, and the comments on the progressive policy of diesel-electric traction which is being implemented by the Irish Transport Company are awaited with especial interest. It is not believed that there is any likelihood of electrification proposals being incorporated in the report. When that matter was last investigated in Ireland, it was found that the necessary traffic density was too limited to hold out any prospects of success except on a very small scale, and since then costs of conversion have risen very steeply. The position and future of the Great Northern Railway in Eire also raises interesting conjectures.

* * * *

Overseas Railway Traffics

During July, higher operating expenses on the Canadian Pacific and Canadian National were responsible for further decreases in the net results, and on the C.P.R. aggregate net earnings at £400,250 were £1,694,750 below last year. C.P.R. gross earnings for the month were £7,454,250, or £524,000 above last year, and working expenses were greater by £572,250, at £7,013,000, so causing a net decrease of £48,250. As a result of expenses increasing by £4,178,000, a C.N.R. improvement of £943,000 in gross earnings was converted into a net decrease of £3,235,000, and aggregate net earnings since January 1 fell by £4,888,000 to £695,750. The substantial increases recorded by the Paraguay Central were continued during the fortnight under review and a total gain of G 93,691 for the two weeks, brought the aggregate traffics up to G 934,955, an increase of G 501,838 since July 1. Fluctuations in Great Western of Brazil brought an increase of £2,000 in the first week, followed by a £3,200 decline in the second, and on the aggregate, traffics are now showing an improvement of £11,900 at £1,134,300. Despite recent hopes that the decline in United of Havana was being arrested, unfavourable traffics continued with decreases of £19,155 and £14,389.

* * * *

Argentine Railway Tariff Revision

Full particulars were given in our April 30 issue of the Special Commission appointed to run the former British-owned railways now vested in the Argentine State. It will be recalled that the operation of the railways now is entrusted to an Executive Committee, and that various advisory committees also have been set up. Among these is a Tariff Committee which has been given the unenviable task of studying the existing tariff system and submitting a report with recommendations for its reconstruction within 45 days. It is pointed out in a recent issue of *The Review of the River Plate* that, bearing in mind the variety of rates existing, there is little likelihood of the committee being in a position to provide a constructive policy in so short a time, and that the only rational short-term approach would be to jettison the present accumulation of tariffs and begin again with a simple scale of rates based on the estimated ton-kilometres and revenue reasonably to be expected, with, possibly, an interim increase on existing rates. It is also argued that in a large and partly undeveloped country like Argentina a transport tariff system should promote general prosperity by favouring those regions which economically are the most backward.

* * * *

Caldon Low Quarries

It is appropriate that the quarries at Caldon Low, near Waterhouses, Staffordshire, should produce limestone eminently suitable for the ballasting of railway tracks, as they have a direct connection with the very early days of railway enterprise. On May 13, 1776, the Trent & Mersey Canal Company was granted Parliamentary powers to construct a branch canal from Etruria to Froghall, and a railway thence to Caldon quarries. This railway was the second in England for which an Act was obtained, and was probably the first ever constructed for public traffic. In 1841, the canal company arranged to quarry the stone itself, subject to the payment of royalties to the quarry owners. Six years later, the whole undertaking passed into the hands of the North Staffordshire Railway, and to the L.M.S.R. in 1923. The railway worked the quarries until 1934, when they were leased to Hadfields (Hope & Caldon Quarries) Limited. The stone is used extensively as ballast on the London Midland Region, and the equipment at the quarries, and the arrangements for handling this traffic, are described in detail elsewhere in this issue.

* * * *

Clachnaharry Swing Bridge, Inverness

The mountainous configuration of the greater part of Scotland has reduced the number of navigable rivers to a minimum, and imposed severe limitations on the construction of artificial waterways, with the result that very few opening bridges are required on the railways. One of the most interesting of such structures is the swing bridge which carries the northern section of the Highland main line over the Caledonian Canal at Clachnaharry, near Inverness. The bridge was opened on June 11, 1862, and was preceded, in Scotland, only by the swing bridge over the Forth & Clyde Canal at Grahamston (opened on October 1, 1851). Although the cramped dimensions of the locks on the Caledonian Canal restrict its use to ships of light tonnage, the bridge frequently has to be opened for trawlers passing between the east-coast and west-coast fishing grounds. Not only is the severe speed restriction in force over the bridge a serious hindrance to railway traffic, but, together with the neighbouring viaduct over the River Ness, the structure has always been an effective barrier to the doubling of the first 1½ miles of the main line north of Inverness. The recent strengthening of the bridge is described elsewhere in this issue.

* * * *

The Collision at London Bridge

The collision at London Bridge, Southern Region, on January 23, 1948, was due, as will be seen from our summary of Brigadier C. A. Langley's report in this issue, to an incoming electric main-line train overrunning the inner home signal—a colour light—and striking an empty train waiting for the signal to leave. The points happened to be standing at the moment of overrun so as to direct the train to the occupied line, but could not be changed, as the track locking prevented it, although the signalman saw the danger. The motorman, and another man travelling with him, died before they could be freed from their wrecked cab. Brigadier Langley is convinced that the correct signal aspects were showing for the approaching train, and that no signal nearby could have been in a condition to have been misread for the inner home. A question arose as to whether a certain shunt signal could have been off at the time, as some witnesses said they saw it so after the accident, but whatever may have occurred later, Brigadier Langley is satisfied that it also was at red when the colliding train passed it.

* * * *

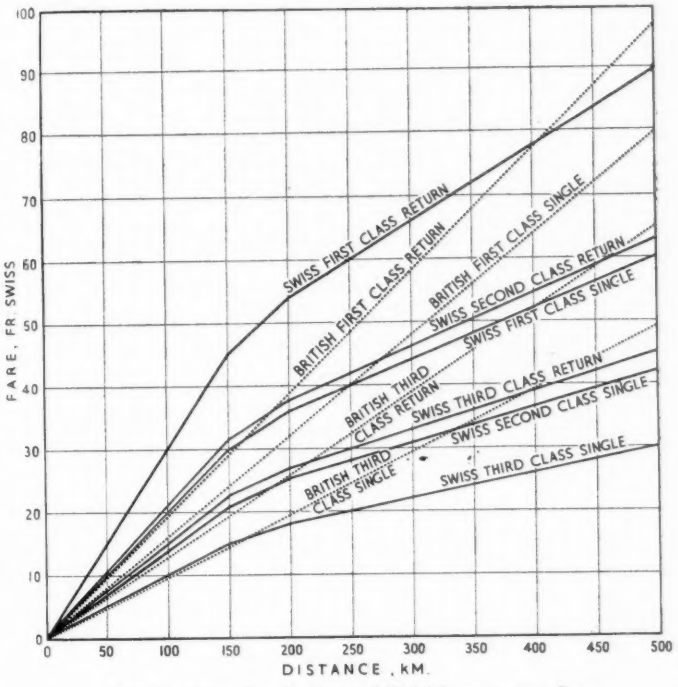
Lightweight 2-8-0 for Andean Line

In the past, several notable Consolidation designs have been supplied by British locomotive builders to Andean and other steeply-graded railways which rise to a great altitude, and the latest example has been built by the Hunslet Engine Co. Ltd. for the Guaqui-La Paz Railway of the Peruvian Corporation. The locomotive will not be required to work over such a great range in height as, for example, from sea level to 13,800 ft. on the Peruvian Central, as the routes over which it will operate are almost entirely above 12,000 ft. This factor, however, by no means obviates sharp grades, which on the Guaqui-La Paz system are as steep as 1 in 14 for adhesion working. On many of these mountain lines, axle loads are strictly limited by rail weights and bridges, and the Guaqui line is no exception, for in this new locomotive the maximum is 10¼ tons. Full advantage, though, has been taken of the inherent characteristics of the 2-8-0 wheel arrangement in securing 87 per cent. of the total engine weight on the coupled axles. Tractive effort at 75 per cent. boiler pressure is 20,000 lb., and factor of adhesion 4·5; an illustrated description appears elsewhere in this issue.

Swiss Passenger Fares

THERE are many points of considerable interest about the passenger fare system of Switzerland. It encourages long-distance railway travel by giving the passenger a progressively reduced rate per kilometre as his length of journey increases. From 1 to 150 km. (93·2 miles) the rates are uniform at 20, 14, and 10 centimes per km for first, second, and third class tickets respectively; from 151 to 200 km. (124·3 miles), however, the increase for each additional km. falls to 12, 8·4, and 6 centimes, and from 201 km. upwards to as little as 8, 5·6, and 4 centimes. In all these ranges of distance, return tickets for all classes are issued at 50 per cent. above the single journey rate.

The fare graph reproduced shows the effect of the Swiss system as compared with the British, and in the annexed Table I, six examples are given of British and the equivalent Swiss fares over distances varying from 94 to 393 miles, at the present exchange rate of Fr. Swiss 17 to the £. In Great Britain the present fares work out at 4·07d. first and 2·45d. third class per mile, to which a fraction over one-fifth first class and one-third third class are added for a monthly return ticket. In general it will be seen that at distances up to 100 miles, Swiss third class fares are similar to British, and first class more expensive, particularly return tickets; whereas in the 400-mile range, as to Edinburgh, the Swiss rates would be far lower in both classes, and even Swiss second class is considerably cheaper than British third class.



Graph comparing Swiss and British passenger fares

It should be added that the use in Switzerland of first class is very limited; so far as the internal services of the country are concerned, many trains are run with second and third class accommodation only, and on those which do provide first class as well as second, there is little or no difference between the relative comfort of the two classes, so that the only advantage of first class is privacy. On the other hand, the second class in the new Swiss lightweight stock used on the high-speed trains is fully the equal of much of the first class accommodation in other countries. The amenities of Swiss third class, however, would not compare with those of modern British third class main-line coaches. No supplementary fares of any kind are charged in Switzerland, even on the high-speed services; all "express fares" have now been abolished.

Any traveller in Switzerland can calculate the cost of a journey with the greatest ease. In the compact and beautifully-printed Swiss Official Guide, each timetable gives the distances in km. from starting-point to all the stations shown on it. At the beginning of the book is a table of fares for all distances from 1 to 740 km., from which may be read in a moment the appropriate fare for the distance to be travelled. Over certain mountain routes which were exceptionally costly to build, or still are so to operate, higher fares obtain, but this is very simply covered by printing in the time-table concerned a "tariff-kilometrage" instead of the actual distances; for example, from Spiez to Brigue by the Lötschberg line the distance is shown as 115 km. (71½ miles) instead of the actual 46 miles; from Chur to St. Moritz is shown at 171 km. (106¼ miles) instead of the actual 55½ miles.

We come now to the special travel inducements offered to those who take holidays in Switzerland. First, there is the "holiday ticket." To obtain this, the tourist states in advance the itinerary he desires to follow and he is then provided with a book of vouchers covering each section of the route. Nearly all the privately-owned systems and mountain railways are parties with the Swiss Federal Railways to this arrangement, as well as the lake steamers, postal motor-coach services, and some of the private motor undertakings.

The basis of charging is, first, an overhead charge of Fr. 25 first, Fr. 20 second, and Fr. 15 third class, and then a rate for the entire itinerary which is even less than an ordinary single ticket for the total mileage to be covered. Moreover, the holiday ticket includes five vouchers which may be used to obtain tickets for individual local trips at considerably reduced fares. A holiday ticket is available for a month, but its validity may be extended to two months on payment of a supplement of one-fifth of the purchase price. On a recent extensive tour covering about 1,140 miles of Swiss railways, and a "tariff-kilometrage" of 2,636 (1,614 miles), on the ordinary mileage basis a second class ticket would have cost about £12 2s.; the actual charge for the holiday ticket was £10 7s.

For those who desire to do more extensive travelling, there are the general holiday season tickets, which are ingeniously

TABLE I—TYPICAL BRITISH AND SWISS PASSENGER FARES

—	British					Swiss equivalent						
Class		First		Third			First		Second		Third	
—	Distance	Single	Return	Single	Return	Distance	Single	Return	Single	Return	Single	Return
London to :—	Miles	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Km.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Coventry ...	94	1 11 11	1 18 5	0 19 1	1 5 7	151	1 15 6	2 13 3	1 4 10	1 17 3	0 17 9	1 6 8
Nottingham ...	123½	2 1 10	2 10 8	1 5 2	1 13 9	199	2 2 3	3 3 4	1 9 7	2 4 4	1 1 2	1 11 8
Leeds	185½	3 3 0	3 15 9	1 17 10	2 10 6	299	2 11 8	3 17 6	1 16 2	2 14 3	1 5 10	1 18 9
Oxenholme ...	249¼	4 4 7	5 1 11	2 10 11	3 7 11	402	3 1 5	4 12 1	2 3 0	3 4 6	1 10 9	2 6 2
Penzance ...	305½	5 2 11	6 3 9	3 1 10	4 2 6	491	3 9 9	5 4 6	2 8 10	3 13 3	1 14 11	2 12 3
Edinburgh ...	392¼	6 14 4	8 1 3	4 0 7	5 7 6	632	4 3 1	6 4 6	2 18 1	4 7 2	2 1 7	3 2 3

planned. For a 15-day ticket, the purchaser pays an overhead charge of Fr. 125 first, Fr. 100 second, and Fr. 75 third class (£7 7s. 1d., £5 17s. 8d., and £4 8s. 3d. respectively). On six days of his own choice, out of the fifteen, he may travel free anywhere in the country, and, as with the holiday tickets, on all railways and other transport services that are parties to the arrangement. On all the other days he is able to take individual journey tickets at one-half the ordinary fares. He therefore uses the six days of complete liberty for the purpose of his longer through journeys and major excursion trips, and obtains tickets very inexpensively for use in minor expeditions.

Similar holiday season tickets, available for 30 days and including 12 days of unlimited choice, are obtainable at Fr. 200 first, Fr. 160 second, and Fr. 120 third class. For those making a longer stay in the country or for residents in Switzerland, season tickets of the same kind can be obtained for twelve months, with from 24 to 48 days of unlimited travel and all other travelling at half-fare, at rates at which the principle of a steadily diminishing charge for more mileage continues to be observed.

Another useful type of Swiss season ticket is the "demi-billet"; to obtain this the would-be traveller pays a flat rate of Fr.60 for three months, or Fr.180 for twelve months, and then is entitled to take the whole of his tickets, first, second, or third class at choice, at half the normal fares. For a very small additional charge, two persons in the same household may share one season ticket on condition that it is used by one only of the two holders at a time. There are also annual season tickets for completely unrestricted travel; these cost Fr. 1,660 (£97 6s. 6d.) first class, Fr. 1.330 (£78 4s. 9d.) second class, and Fr. 1.000 (£58 16s. 6d.) third class. The different types of all-line season ticket issued in Switzerland are set out in Table 2 below.

TABLE 2—SWISS ALL-LINE SEASON TICKET RATES

Type of ticket	Validity	No. of days of		Price		
		Free travel	Half-rate travel	First	Second	Third
				Fr.	Fr.	Fr.
Holiday ...	15 days ...	6	9	125	100	75
,, ...	30 ,, ...	12	18	200	160	120
Demi-billet ...	*3 months ...	—	91	60	60	60
,, ...	12 ,, ...	—	365	180	180	180
General ...	*3 ,, ...	6	85	180	145	120
,, ...	*3 ,, ...	12	79	290	220	175
,, ...	12 ,, ...	24	341	640	500	400
,, ...	12 ,, ...	48	317	990	740	575
,, ...	12 ,, ...	365	—	1,660	1,330	1,000

* Average duration of quarter, 91 days

In all the foregoing season ticket arrangements, it will be observed, the railways are assured of revenue by the overhead charges imposed, and the benefit to the holder increases proportionately to the mileage that he covers during the period of validity.

In addition, a great variety of season tickets is available, restricted to specific routes, covering either an unlimited number of journeys or two single journeys a day, or ten return or twenty single journeys in three, four, or six months, and so on, at appropriate charges. The last-named are particularly useful to certain classes of people, such as scholars travelling some distance to and from boarding schools at the beginning and end of term.

There are, finally, the collective tickets issued to societies and schools, with a ten-day validity. Parties of 6 to 14 obtain a reduction of 25 per cent. on the ordinary tickets, while the reduction increases to 35 per cent. with parties of 15 to 99, to 40 per cent. with 100 to 249, and to 45 per cent. with 250 persons or more. Parties from schools, irrespective of size, given a minimum of five scholars with a master or mistress, may travel at 50 per cent. reduction on ordinary fares if the party is over 16 years of age, and at 70 per cent. reduction if of 16 years or less. It need only be added that the frequency of the Swiss train service in all the populous parts of the country, and the extensive patronage of the trains, are a witness to the popularity of the country's fare arrangements with its travelling public.

Swings or Roundabouts

LAST week in reviewing No. 6 of the British Transport Commission's *Transport Statistics* we quoted a note of concern in the Commission's "Foreword" which read: "The estimates of traffic made a year ago are not in fact being realised; and the rate of increase in gross receipts from railway working during the first half of this year has been less than that required to yield the additional revenue of £65 million which the increased charges were expected to produce in 1948. Increased costs which could not be foreseen when the estimates were made are also being incurred, although economies and savings may go some way towards meeting these costs."

In its issue for September 11 *The Economist* in a long article entitled "A Railway Slump?" takes a very poor view of the railway outlook. In its opinion: "The Commission and the Executive are in a painful dilemma. To seek an increase in charges would merely heighten the loss of traffic which is already serious and threatening. . . . On the present trend of the figures, it is quite improbable that the Railway Executive can earn very much, if anything, this year to meet the £28 million or so of interest on the portion of Transport Stock issued to pay for its assets. The figures are an urgent warning for the need for seeking economies of unification by the more efficient management of the railway system and also for solving the questions of co-ordination and long-range transport policy which are peculiarly the responsibility of the Transport Commission. There is little evidence that any effective steps are being taken in these directions and little public discussion of their profound importance on the future of the British economy."

We do not know what authority our contemporary has for making the assertion in the last sentence quoted. We cannot believe that the Minister of Transport, the Transport Commission, and the Railway Executive could be so negligent. Besides, would even a £28 million loss on the railways be such a serious matter in the first year of nationalisation?

A foreigner reading *The Economist* article might well think that only British railways have been nationalised, whereas with two exceptions (traders' own goods and local deliveries) the whole system of British inland transport has passed or is in process of transference to State ownership and operation. What the owners will have to make up their minds on is whether they want to make their profit on "the swings or the roundabouts" or something on both.

British railways' present difficulties started in the 1920's. After lying dormant for 80 years the erstwhile turnpike roads had a "come back"; but with no tolls! Instead of paying for the construction, maintenance, signalling, and policing of their "permanent way" by a system of tolls, road-hauliers, "C" licence holders, bus companies, long-distance motor coaches and private cars have all been preferentially treated as against the railways with their 52,000 miles of track and thousands of costly passenger and goods stations. Instead of the much heralded and long discussed "square deal" sought by the railway companies and agreed to by the road hauliers the Government has preferred State ownership and virtual monopoly of all forms of inland transport.

There is one bad snag in this happy (*sic*) state of affairs. The rise in the number of goods vehicles operated under "C" licence by manufacturers and traders for the transport of their own goods. By the end of last year there were 497,151 such licences. When the Transport Bill was introduced "C" licence holders were to be restricted to a 25 miles delivery radius. But mainly owing we believe to representations made by the Wholesale Co-operative Society, who are amongst the largest owners of road motor goods vehicles, this restriction was withdrawn. At the time it was thought by many that this alteration would have a most serious effect on the financial results of the Transport Commission. The growth in the number of "C" licences has been causing official concern, and the Minister of Transport has issued a warning that continued expansion could not be contemplated indefinitely. Had there been tolls for all road users the present contretemps would never have arisen. Alternatively, the Minister of Transport will now have to be brave if the Transport Act is to be a financial success, and revert to the 25 miles for "C" licences.

As to passenger traffic, the course is quite clear. If it is desired to transfer more passenger traffic to the railways, bus

and coach fares must be increased. *The Economist* says: "The increasing goodwill of the coach services is not founded solely on cheapness. The coaches often offer more convenient and more reliable direct services on cross country routes. The automatic booking of seats on long distance and intermediate routes is evidently popular. For these reasons, coach travellers are often prepared to queue many hours in order to book their journeys months in advance." That may be the case now, but with improved train services when more rolling stock is available and more comparable road and rail fares, there may be a big change in the future. For better or worse, the State, having created a virtual transport monopoly, is not likely to allow "freedom of choice" on the part of the user to prevent it earning a return on its investment. This may be anathema to Victorian ideas, but with a quasi totalitarian government and yearly increasing State monopolies, should travellers and traders be surprised if they find themselves "directed" regarding their use of rail or road?

* * * *

Implications of the Tilling Deal

THE official announcement on Thursday of last week that Thomas Tilling Limited had reached agreement with the British Transport Commission for the sale to the Commission of all its interests in passenger road transport and road haulage undertakings (with the minor exception of Ford Limited) has many points of interest in connection with the progress of transport nationalisation, entirely apart from the magnitude of the deal.

Subject to any detailed adjustments, the purchase price receivable by Thomas Tilling Limited is expected to be £24,800,000, and the purchase will date back to January 1 of the present year. Although, of course, the shares in Thomas Tilling Limited are not being acquired, these shares are the ones which own the equity of the controlled interests, and, therefore, their stock exchange quotations have reflected the market reactions to the deal. On the morning of the announcement, the Tilling £1 ordinary opened at 117s. 6d., an overnight rise of 16s. 6d., but later receded to 115s. 3d. A year ago they were standing at about 61s.

From the road haulage viewpoint, the deal is important but not exceptional, in view of acquisitions already made. The agreement does not cover undertakings which are not affected by the Transport Act, 1947, and thus excludes such Tilling businesses as Daimler Hire Limited, as well as its insurance and buildings interests.

On the passenger side, this represents the first direct acquisition of the B.T.C. of any shareholdings in passenger road transport other than those inherited from the British main-line railways, and the acquisition of three bus companies that had passed more or less fortuitously into the hands of the British Electricity Authority. The Tilling shares will contribute to B.T.C. assets in passenger road transport in four ways, namely: (1) they will give the Commission ownership of the shareholding of thirteen bus companies, in which it had previously held large minority interests; (2) they will give shareholding control, but not virtual ownership, of six of those bus companies in which previously the railways held somewhat smaller minority interests; (3) they will give the B.T.C. ownership of three bus companies that heretofore have been entirely without railway shareholdings; and (4) they will give a controlling interest in one bus company heretofore without railway associations.

The following are the thirteen bus companies, previously railway associated, in which the B.T.C. now owns the whole of the shareholding, or subject only to quite minor outstanding holdings in private hands:—

Crosville Motor Services Limited
Cumberland Motor Services Limited
Eastern Counties Omnibus Co. Ltd.
Eastern National Omnibus Co. Ltd.
Ledbury Transport Co. Ltd.
Norwich Omnibus Company
Orange Brothers Limited
Southern National Omnibus Co. Ltd.
Southern Vectis Omnibus Co. Ltd.
Thames Valley Traction Co. Ltd.
United Automobile Services Limited
Western National Omnibus Co. Ltd.
West Yorkshire Road Car Co. Ltd.

In the second class, the six companies in which the railways previously held shareholdings substantially below 50 per cent., and in which the B.T.C. holding is now doubled by the acquisition of the Tilling shares, are as follow:—

Bath Electric Tramways Limited
Bath Tramway Motor Co. Ltd.
Bristol Tramways & Carriage Co. Ltd.
Hants & Dorset Motor Services Limited
Lincolnshire Road Car Co. Ltd.
Wilts & Dorset Motor Services Limited

In the case of all of these, the B.T.C. shareholding now amounts to a controlling interest of very substantially more than half the issued capital, but still with minority interests that are not inconsiderable. Then there is the smaller group of companies, three in total, that heretofore have been entirely without railway shareholdings, as they were wholly-owned (or almost wholly-owned) Tilling subsidiaries. These are:—

Brighton, Hove & District Omnibus Co. Ltd.
United Counties Omnibus Co. Ltd.
Westcliff-on-Sea Motor Services Limited.

The fourth category consists of but one company, namely, the Caledonian Omnibus Co. Ltd., which is the only one of the Tilling Group in Scotland. The Tilling interests owned most of the issued share capital, but not all. This company is also of interest, in as much as it is the only representative north of the Border of either of the big English groups; the B.E.T. now has no bus interests in Scotland, having sold them to the S.M.T. Group under earlier rationalisation schemes. Negotiations are known to be proceeding between the Scottish Motor Traction Company and the B.T.C., and the conclusion of these would result in the nationalisation of by far the greater part of the Scottish bus industry, in which the B.T.C. interests at present amount to about 50 per cent. In England and Wales the Tilling deal leaves the country divided between B.T.C. subsidiaries and the important associates of the B.E.T. Group (in most of which the B.T.C. inherited large minority shareholdings from the railway companies), and also quite a number of substantial independent interests, apart from the thousands of small operators.

* * * *

Railway Memories

IT is but natural that, as the railways of this country have now passed through the whole 25-year era of grouping into that of nationalisation, an older generation should evoke railway memories of those earlier years when all the many British railway companies had their own distinctive characteristics; when driver vied with driver to have the smartest engine; and when symmetry of shape and refinement of livery were highly esteemed. Although there are many memories, one of the most striking contrasts is provided by recollections of our railways as they were roundly half a century ago, compared with the present time, and those who wish to make this comparison, either on nostalgic grounds or as a matter of history, have received most valuable help from the recent production of a book* of illustrations entitled "Railway Memories," which consists of reproductions of 204 photographs from the camera of Dr. Tice F. Budden, taken mainly in the last decade of the 19th century.

The collection includes broad-gauge trains on the G.W.R., several famous locomotives, and some excellent pictures of trains on minor railways. The necessary explanatory text is provided in notes by Mr. Rixon Bucknall. It has been designed to appeal to the professional railwayman, to the enthusiast, to the modelmaker, and to the youthful aspirant, and we feel that all will find something of considerable interest to them within its pages. It forms also a valuable pictorial supplement to other railway literature. This is a book to be perused at leisure. Whether it revives memories in the minds of an older generation, or provides the younger reader with a graphic record of a bygone age, it is deserving of a warm welcome by everyone whose enthusiasm or interest lies in railways.

ITALO-BIZONAL TRADE AGREEMENT.—The signing of a provisional trade agreement between Italy and the Bizone of Germany was announced recently. Bizonal exports to Italy will include coal, potash, iron and steel products, machinery, cameras and optical goods, and pharmaceuticals, and imports will range from foodstuffs and fertilisers to electrical equipment, railway wagons, and rayon.

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* *Railway Memories.* By Rixon Bucknall and Dr. Tice F. Budden. London, W.C.1: Published by the authors at 48, Woburn Place. 7½ in. × 5 in. 248 pp. Illustrated. Price 15s. net

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Continuous Brakes on Freight Trains

61, Millway, Mill Hill,
London, N.W.7. August 20

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have read with interest the letters by correspondents in the July 30 and August 20 issues on the subject of continuous braking for freight trains in this country. I should like to know the objections, if any, to the use of some form of over-riding brake operated from the drawgear. A cut-out would be required for shunting, as inertia will be lost when shunted vehicles strike each other; also, the drawbar may have to have two stages of compression, the brake being operated from the final stage to reduce the surging effect in long trains.

Yours faithfully,
L. F. E. COOMBS

Provincial Connections

The Firs,
Eyam, Sheffield. August 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Recent correspondence has quoted examples of poor connections, and many more could be found. These things must be as well known within the railway organisation as outside, and presumably there are reasons; but some look like habits dating from times when neighbouring companies did not always "get on."

I had to seek a train to Bletchley, either from Sheffield or from Miller's Dale. There are so many obvious links between the former Midland and the former L. & N.W. main lines that the lack of good connections is surprising. Derby-Tamworth, Leicester-Rugby, and Market Harborough-Northampton were all found quite hopeless. The outward journey was made by Bedford (changing stations) and was rather poor; the return was by Northampton-Wellingborough-Leicester, and might be called "not bad as these things go." Rather surprisingly, Derby-Stoke-Stafford gives a service about as quick as any other, but was not, in fact, used. The Leicester-Rugby line could be an excellent link between the northern parts of the Midland and the southern parts of the North Western, but the timetable looks as though trains are purposely arranged *not* to connect. Sometimes there are good reasons for doing that, but surely not throughout the day.

Yours faithfully,
C. E. TURNER-JONES

Improved Train Connections in the Provinces

Dale View,
16, Box Ridge Avenue,
Purley, Surrey. August 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have been interested in the recent illuminating correspondence in your columns on the subject of train connections in the provinces, and of train service facilities to the minor provincial towns. I entirely agree with the sentiments expressed by Mr. J. F. O. Spencer in your issue of July 30, on the subject of connections at Birmingham (New Street). There seems to be an unfortunate tradition at this station that all the Midland Division trains (the standard of punctuality of which in any case leaves a great deal to be desired in that area) should linger in the platform until the very moment that a North Western train approaches the station, and then hastily depart—to the utter consternation of the cross-country traveller.

Another example which I should like to bring to light is an apparently illogical break of connection in the afternoon at Nottingham (L.M.R.). The 5 p.m. L.M.R. train from Lincoln arrives at Nottingham (L.M.R.) at 6 p.m.; a train from Nottingham to Leicester and all intermediate stations departs also at exactly 6 p.m. The train from Lincoln, arriving in good time at a point just outside Nottingham Station, after a non-stop run from Rolleston Junction, waits outside for the Leicester train to depart! Thus, cross-country passengers from Lincoln, Newark, Rolleston Junction, etc., to Trent, Loughborough, Leicester, and intermediately are deprived of their connection. An unofficial investigation from an operating point of view (although admittedly in a strange Region) does not reveal any problem, such as lack of platform accommodation, which would make this anomaly necessary.

Fortunately, in this particular instance, there is a saving grace as far as passengers for Leicester are concerned. By a smart dash across the city to Nottingham (Victoria) one can catch there the 3.50 p.m. Manchester (London Road) to Marylebone, leave at 6.26 p.m., and arrive at Leicester (Central) at 6.58 p.m., *before* the L.M.R. 6 p.m. from Nottingham (L.M.R.). This is most gratifying, especially in view of the harsh treatment that the ex-G.C. main line sometimes receives in your columns. The ex-G.C. line services have the superlative merit of not presupposing that every traveller wishes to travel non-stop from one extremity of the country to the other, but recognise that a percentage at least of the population desires to travel from one provincial town to another in speed and comfort. The type of service provided on this line could well, it seems, be a model for your recently raised cry for "shorter trains and more of them," and the improved punctuality of, and better timing of connections between, cross-country services will be a decisive factor in retaining to rail the inter-provincial type of passenger traffic.

Yours faithfully,
R. A. SAVILL

"The Importance of Apostrophes"

7, Beech Grove,
Gosport, Hants. July 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was interested to see the correspondence in your paper about the spelling of the name of Mackintosh. With reference to Mr. Macintyre's letter in your June 18 issue, the latest book of W. & A. K. Johnston on "Scottish Clans and Tartans" spells it MacKintosh.

It will be seen in "The History of the Clan Mackintosh and the Clan Chattan," published by the same firm this year, that the name has been spelt in 50 different ways in the past. The nearest to the correct spelling of the old name would appear to be Mac-an-toisich. The letter "K" has crept in for modern usage—and the Chief spells it Mackintosh.

Yours sincerely,
MARGARET MACKINTOSH

Season Ticket Rates

85, High Street,
Cheadle, Cheshire. September 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In all the statistics of railway passenger journeys the number of journeys made by season ticket holders is based, and has been based for many years, on an assumed figure of 600 journeys per annum.

This figure was no doubt correct when first estimated, but I submit it is now incorrect by reason of the change in some at least of the factors which must have formed, and still form, the basis of any such figure. If so, it follows that all the "season ticket passenger journey figures and percentages, etc.," are incorrect, and as the season ticket holder journeys form approximately one-third of the total passenger journeys, the matter is of some importance.

The 1938 figures were calculated on this assumption, but if it was correct, then it surely cannot be correct now, because various factors must have brought about a decrease in the number of journeys made by such persons, *e.g.*, the five-day week, increased holidays, decreased and slower train services, and other factors.

If this is so, it follows that the 1947 figures must be incorrect and too high, and the 1948 figures even more so. In any event, has the time not come for the figure to be calculated at least annually in a somewhat similar way to the new cost of living index on a realistic basis?

Yours faithfully,
ERIC B. DYCKHOFF

Cheap Fares in the Nottingham District

27, Nether Edge Road,
Sheffield 7. August 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I do not think that anyone will disagree that the policy of British Railways in introducing the so-called cheap fares is to increase passenger train revenue, and induce better patronage of trains, particularly those on local services, but some aspects of this policy seem rather obscure. For instance, the cheap day fares between the intermediate stations, Leicester Central—Nottingham (Victoria) to Nottingham are available every weekday, yet the same facility from the intermediate stations Grantham—Nottingham (Victoria) to Nottingham is only available mid-week, and on certain specified trains on Saturdays in connection with the cricket matches at Trent Bridge. If the answer to this discrimination is that it is necessary to discourage travel by local people on the Grantham—Nottingham line at week-ends on account of long-distance passengers, the excuse will not hold water in the least. A bus service between Grantham and Nottingham competes with this

service, and between Radcliffe and Sedgebrook closely parallels the railway. This service, on which fares are substantially cheaper than any the railways are at present offering, is fairly frequent, and is duplicated at times as required. Between Bingham and Nottingham, however, it is half-hourly for most of the day. Is it any wonder that the railways are not attracting passengers with their so-called cheap fares? Why pay the railway fare three days a week at cheap rate, when I can get cheaper fares on the bus seven days a week? A different policy is required if the railways wish to attract passenger traffic. Whether the fact of the bus concern being a railway associated undertaking has anything to do with the case, may be a matter of argument.

If the railways are honestly desirous of attracting passenger traffic, I suggest that they operate facilities comparable to those which obtained between Hucknall (Central) and Nottingham (Victoria) about twelve years ago. The standard day return fare was ninepence, but after 4.30 p.m. Mondays to Fridays, and 2 p.m. Saturdays, a special cheap return of sixpence was in force. Even though the service ran in competition with the buses, and although Hucknall (Central) is over a mile from the centre of the town, the latter facility filled the local trains which had previously run more than three-parts empty, and amply justified itself.

A new approach to this matter of cheap fares and passenger revenue is urgently required, and I would suggest that the Railway Executive should get rid of the "London parochial mentality," wake up, and view the matter in the light of the present provincial circumstances.

Yours faithfully,

D. J. WORRALL

The Distant Signal

East Box, Stoke Gifford,
Western Region. August 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I must admit that I did not read Mr. E. R. B. Roberts' letter of a few weeks ago; consequently I wish to avoid any reference to it. However, in his letter published in the issue of August 20, he states, "at the vast majority of stations, both at home and abroad, there are only two signals—the distant and home."

That is probably correct, but he then makes reference to the Goswick accident diagram in the issue of July 16, stating that signal 22 is unnecessary. Unfortunately, I have sent that particular issue to a signalman "pen pal" in America, but I must make it clear that, more often than not, additional home signals are provided for acceptance purposes only. The standard "clearing point" for a signalman to accept a train from the rear, is ¼-m. in advance of home signal. With the home signal ¼-m. to the rear of the inner home signal, and provided a train (complete with tail lamp) is within the protection of the inner home signal, the signalman may give "train out of section" and accept another.

So there is, in all probability, quite a good reason for the provision of No. 22 signal.

Yours faithfully,

C. P. LOVEMORE

The Old Manor, Salisbury,
Wilts. August 20

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In his letter in the August 20 issue, Mr. Roberts seems blissfully unaware that railway signalling exists to give a driver as much information as possible of the road ahead of him, and that this is generally more than a mere "stop" or "go."

A distant signal never was a stop signal, and they were not provided in the early days. With the growing speed and weight of trains, the home had to be put farther and farther out until two, an inner and an outer, had to be provided. The use of the outer was then altered to give the driver information as to whether or not he had a clear run ahead through the other signals. It was then that it became a distant as we now know it.

If your correspondent's only objection to A.T.C. and cab signalling is expense, one wonders he did not object to signalling completely on that score. After all, half a dozen good smashes a week might help to reduce the population of this overcrowded island, even if it did put British Railways in "Queer Street"! Had he ever tried to pick out signals in "dirty" weather, he would appreciate such an arrangement.

It would be interesting to see compared the relative points of intermittent schemes such as that of the G.W.R. (now Western Region), and continuous ones such as that used on the Pennslyvania Railroad, U.S.A.

It seems clear that the distant at Goswick was passed unseen. Had it been a home or starter, there is no reason to suppose anything different would have happened. Had there been A.T.C. it would have operated.

I am not familiar with certain local points at Goswick, but the presence of signal No. 22 may provide the 440 yards overlap required by the block telegraph rules. It may be more convenient to have it there than elsewhere; in fact, it might almost be a necessity to avoid undue delay.

Yours faithfully,

COURTENAY BARRY

Station Name Signs

64, St. Albans Road, Seven Kings,
Ilford, Essex. August 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Whilst agreeing to a large extent with your correspondent, Mr. Austin, in your issue of August 6, regarding the lack of imagination in design and construction of many of our station name signs, I would, nevertheless, direct him to Surbiton Station, where earlier this year the Southern Region removed the standard Southern Railway name signs and replaced them by an experimental metal type, embodying the British Railways totem, in a green and white style. The result is surprisingly effective, and I would suggest that this style, so well instituted by the Southern Region, be adopted as a standard name sign by the Railway Executive.

Another effective type of name sign, although one which demands structural alterations to station buildings, and as such cannot be generally adopted at this time, is that instituted by the old L.N.E.R. in the reconstructed stations at Stratford, Maryland, Forest Gate, and Manor Park, in preparation for the electrification of the Liverpool Street to Shenfield line. This comprises rectangular blue glass inset in the walls of the station buildings, with the name of the station marked out in white, the whole being electrically lit at night, and thus displaying the station name very conspicuously.

I agree with Mr. Austin that the "bulls-eye" design of London Transport is remarkably effective, mainly because of the simple design, but I am of the opinion that this sign should remain the "trade mark" of the London Transport Executive's trains and road vehicles, and, as already suggested, the British Railways totem be used for the main-line railways in the same style as at Surbiton, but with appropriate Regional colours.

As a matter of interest, several stations on the Indian and Pakistan railways display the name in the same style as that used by London Transport, although this is by no means standard practice in these Dominions.

Yours faithfully,

R. M. PALMER

Locomotive Fuel Economy

16, Glenmore Road,
London, N.W.3. August 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Railway coal consumption represents a very large part of the nation's total coal production; locomotive fuel is the largest single item. Any practicable economy is of major importance in the difficult times ahead, which seem likely to persist almost indefinitely. Fundamentally, steam locomotive fuel consumption depends on the basic potential thermal efficiency, and this in turn depends mainly on the use of high-pressure superheated steam, with fully effective means of utilising it expansively. Effective utilisation is essential.

Calculations based on the 1939 *Callendar Steam Tables* show that the theoretical maximum thermal efficiencies (and the necessary expansion ratios) of engines taking steam at the following pressures, all with 250° F. added superheat and exhaust at 15 lb. per sq. in., representing locomotive practice, are: 180 lb. per sq. in.—132 (4·2); 200 lb.—138 (4·6); 225 lb.—145 (5·1); 250 lb.—152 (5·5); 300 lb.—161 (6·5). Theory thus indicates that an engine working expansively with steam at 225 lb. would be approximately 10 per cent. more efficient and economical than one using steam at 180 lb., other things being equal, and, in British practice, published results of actual tests reveal that the G.W.R. "Castle" 4-cyl. 4-6-0 working at 225 lb. (an exceptionally efficient design in every detail) had 19 per cent. higher maximum overall thermal efficiency than the contemporary and comparable L.M.S. (L.Y.R.) 4-cyl. 4-6-0 working at 180 lb. This latter engine had a somewhat smaller grate area than the "Castle," and as (other things being equal, again) a large grate confers an advantage within applicable limits of design and performance, it contributed to the result. Thus, to refer to other published tests, of Pennsylvania locomotives of generally similar design working at the same boiler pressure, on maximum power output, the smaller engine with a grate 55·2 sq. ft. in area developed 38·2 d.b.h.p. per sq. ft. of grate area, and the larger engine with 69·3 sq. ft. of grate

area developed 43·4 d.b.h.p. per sq. ft. Both, however, were very large by British standards. Few British locomotives can exceed 40 d.b.h.p. per sq. ft. of grate area; the majority of those now in service have maximum power outputs nearer 30 d.b.h.p. per sq. ft. of grate area.

In France, modern high-superheat 4-cyl. compounds working at pressures near 300 lb. per sq. in. have developed over 50 d.b.h.p. per sq. ft. of grate area, at higher thermal efficiencies than those achieved by simple-expansion locomotives even at lower power output, mainly because compound expansion renders more effective utilisation of high-pressure steam possible. In the present, and possible future, circumstances of urgent need of economy in the use of coal, there is a strong case for the modern compound engine on British railways. British loading gauge restricts outside (and bearing considerations restrict inside) cylinders to about 21 in. dia. if the coupling rods are (as usually) inside the connecting rods, but if the outside cylinders drive the leading coupled axle, with the connecting rods inside the front coupling rods, outside low-pressure cylinders up to 26 or 27 in. dia. may be used. The 4-6-0 locomotive of moderate size is one of the most useful and adaptable general-purpose engines for British conditions. At 280 lb. per sq. in. boiler pressure (the highest used, so far, here) a 4-cyl. compound with cylinders about 16 and 26 by 26 in., and 6-ft. 2-in. coupled wheels, would be able to provide a tractive effort at start (compound) near 30,000 lb. for a total weight about 80 tons, and would offer 15-25 per cent. fuel economy in most circumstances.

Yours faithfully,
R. OPIE

Signalling on the Sydney Underground Railway

Department of Railways, New South Wales,
Signal & Telegraph Branch,
19, York Street,
Sydney. August 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—We in Australia are always appreciative of the articles which from time to time appear in your excellent journal in respect of signalling matters. In your issue dated June 4, 1948, I was very interested in the article, under the heading "Improved Piccadilly Line Signalling," dealing with the speed-control signalling to be installed by London Transport between Green Park and Kings Cross. The conditions on this line appear to approximate to those which we encountered when we were laying out the signalling arrangements on the underground from Sydney Central Station over the Sydney Harbour Bridge. The problem of the station stop on a line of heavy traffic is one which is encountered on all rapid transit lines, and any constructive suggestions, such as those contained in the article mentioned, are always a matter of interest to their contemporaries abroad, but whose work follows on parallel lines.

When the signalling system on the underground portion of the Sydney City Railway between Sydney Central Station and the Sydney Harbour Bridge was being designed, a great deal of attention was given to the station stop and its effect on train headway, and, although the method of approach is very similar to that on the Piccadilly Line, special operating conditions necessitated several additional features. A ruling grade of 1 in 30 and no speed limitation, other than that due to curvature, rendered the problem particularly difficult. It was realised at the outset that Speed Signalling was the only solution for minimum headway under the exacting conditions, and this proved particularly adaptable in dealing with the station stop. A brief description is given of the speed system adopted, so that its application to the special platform arrangements can be better understood.

Five indications are used, namely, "Stop," "Low Speed," "Caution," "Medium," and "Clear" (see Fig. 1); of these, two have special speed values, 17 m.p.h. for "Low Speed" and 30 m.p.h. for "Caution." The assigned speed values are enforced by delaying the clearing of the train stops at the respective signals until the speed of an approaching train has been reduced to the requisite value. Short timing tracks approaching the signals are used for this purpose. The practice of displaying a proceed indication whilst the train stop arm is in the engaging position was an innovation at the time. Of the remaining indications, the "Medium" warns a driver that he is about to enter a timing section, whilst the "Clear" indication permits an unrestricted speed.

Fig. 2 shows a layout approaching, and within, platform limits where the approaching gradient is particularly severe. When a train is occupying the platform, signal 263 shows "Clear," 259 "Medium," 255 and 251 "Caution," and 247 "Low Speed." The train stops at signals 255, 251 and 247 are all at "Stop," so that, should the warning "Medium" signal, 259, be ignored by a driver, the train would be tripped at 255; should, however, the speed be reduced to 30 m.p.h., 255 train stop would clear and the tripping point would be transferred to 251. The overlap of 780-ft. provides for a speed of 30 m.p.h. at 255 and unwarranted acceleration to 251. Proceeding towards the occupied platform, if the speed of the approaching train is maintained at 30 m.p.h. or less between 255 and 251, the train stop clears at the latter signal, and, provided a further reduction is made so that an average of 17 m.p.h. is maintained for 110-ft. approaching 247 (at "Low Speed"), the train will stop clear and the train can advance to 243 at "Stop." An intermediate or "blind" train stop between 247 and 243 ensures a progressive reduction in speed, having passed 247 at 17 m.p.h. In order to advance trains when the normal station stop is exceeded, a special clearance of signal 243 is made, provided the speed has been reduced to 5 m.p.h. A second intermediate train stop between 243 and 239 guarantees that 5 m.p.h. is not exceeded whilst the platform is occupied.

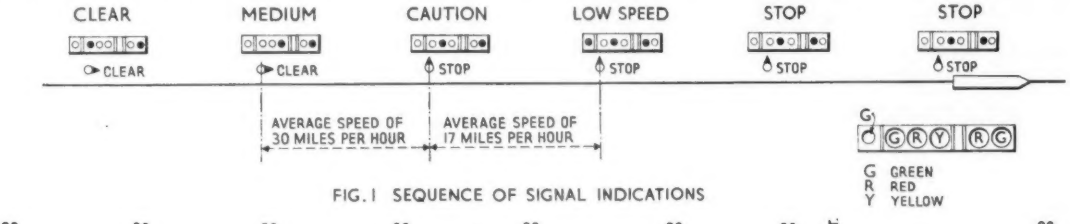


FIG. 1 SEQUENCE OF SIGNAL INDICATIONS

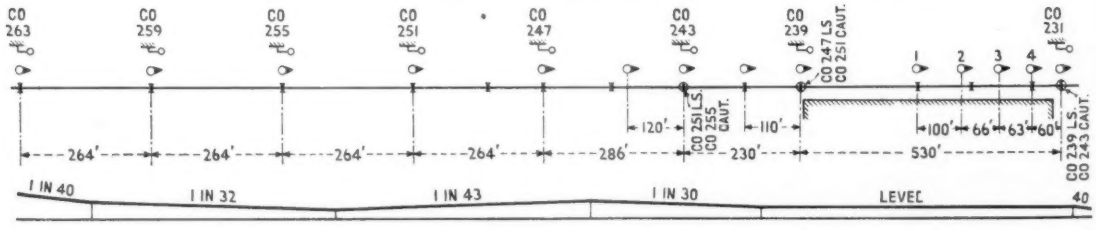


FIG. 2 PLATFORM SIGNALLING ARRANGEMENTS

The platform entering signal 239 clears to "Low Speed" at the departing end of the platform, overlap being provided ahead of intermediate train stop No. 1. The platform train stops, Nos. 1, 2, 3, and 4, ensure a tapered speed control for a train entering the platform should the departing train stop just clear. One further addition is a momentum signal control which provides for signal 239 clearing when the departing train passes clear of No. 2 train stop, provided the acceleration has been such that, even with full emergency application of the brakes, it would be impossible for the train to be stopped with any portion in the platform. Thus, a particularly early clearance is given to the platform entering signal when conditions are favourable. A simple circuiting device achieves this result.

All signals were spaced and lengths of timing tracks and

overlaps calculated to give maximum operating efficiency with maximum safety and, although the system may appear somewhat elaborate, the exacting conditions imposed rendered the additional refinements necessary, A headway of 90 secs. is obtained with trains 510 ft. in length, having an acceleration of 1¼ m.p.h.p.s., and a decelerating rate of 2·2 m.p.h.p.s. on level grade.

The experience over a period of 16 years has proved that the arrangement installed is an entirely satisfactory method of dealing with intense traffic.

Yours faithfully,

W. F. BARTON,
Signal & Telegraph Engineer,
New South Wales Government Railways

Dislocation of Indian Train Services

c/o Grindlays Bank Limited
New Delhi, India. July 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I read with great interest Colonel Emerson's speech at the Indian State Railways dinner and I would like to add a few words as to the dislocation of train services from a passenger's point of view.

Colonel Emerson speaks as a railwayman when he says that trains gradually increased, but these trains were not for fare-paying passengers. In fact, it was not until January, 1948, that anything like normal services were functioning on the E.P.R., and some trains were not restored until February or March.

During the period August 15, 1947, to February, 1948, I, personally, travelled from Quetta to Amballa, Amballa to Dehra Dun, and Dehra Dun to Mhow (Central India), so that I can relate the dislocation at first hand. It must be remembered, however, in view of the size of India, that the dislocation was restricted to a line north and west of Ajmer-Muttra-Bareilly and, therefore, only affected the old N.W.R., and to a lesser extent the E.I.R., G.I.P., and B.B. & C.I. To the south and east services were, with minor exceptions, normal.

Although disturbances in and around Lahore had been going on sporadically for the whole summer, train services were still normal on August 15. An attempt to continue through services continued and, when the main line *via* Amritsar became disturbed, to route the Frontier Mail and Calcutta-Punjab Mail *via* Ferozepore. However, the serious disturbances in the districts adjoining the new frontier brought all passenger movement across it to a halt by about August 20.

The Lahore and Multan divisions (Pakistan) of the N.W.R. were seriously disturbed and I have no first hand knowledge of the Rawalpindi division. The Quetta and Karachi divisions were little affected and, given full staffs, coal and stock, could have continued normal services. I know from personal experience that the Quetta-Karachi Mail ran every day except for some four days round August 20 when some serious but short-lived disturbances occurred around Quetta.

However, owing to shortage of staff and coal, in September only the following main-line trains were running: Karachi Mail (Lahore-Karachi); Quetta Mail (Quetta-Karachi); Frontier Mail (Lahore-Peshawar).

Branch line and stopping trains on main lines ran as and when conditions allowed.

The Frontier Mail was, after the original dislocation, re-started as a through train Delhi-Peshawar across the frontier, under heavy escort and in somewhat dilapidated condition. This continued until the Eastern Punjab Railway ceased to run this train.

As I left Pakistan in October, I have no knowledge of further developments.

The whole of the Punjab being disturbed by September, services on the E.P.R. gradually fell away to a skeleton, which, however, included the Frontier Mail still running across the border. In late September, however, the E.P.R. decided to conserve staff and stock for refugee movement and movement of goods trains, to stop all passenger trains including the Frontier Mail. Further, in late September unprecedented floods breached the main line between Amballa and Saharanpur and practically destroyed the high embankment between the Jumna bridge at Delhi and Ghaziabad Junction. This latter break also prevented the East Indian trains working into Delhi from their junction at Ghaziabad.

Through services from the E.I.R., G.I.P., and B.B. & C.I., such as the Frontier Mail, Punjab Mail and Calcutta-Punjab Mail were terminating at Delhi and Saharanpur respectively.

In late November sectional trains carrying third class only restarted once a day on main lines and twice or thrice weekly on branches. Upper class stock was included in December and by February a reasonable timetable was in operation. Through trains from Bombay and Calcutta now continue again over the E.P.R. as far as Ferozepore and Amritsar, but there is still no general passenger traffic over the frontier.

Broad-gauge trains of the G.I.P. and B.B. & C.I. railways use a common route from Muttra into Delhi, and when riots occurred in Delhi, this line became unsafe; the metre-gauge line to Ajmer also ceased to operate for the same reason. As a result, metre-gauge trains terminated at Ajmer and broad-gauge at Muttra. This, with the cessation of traffic on the E.P.R. and the floods north of Delhi, caused the capital to be isolated for two weeks or so. Normal services were all restored by late November, but some trains were not restored until later, notably the G.I.P. Peshawar Express (Bombay-Delhi), restored in December, and B.B. & C.I. Delhi Express in February, 1948.

The E.I.R. line was little affected except for floods preventing trains reaching Delhi. The comparison between the stations at Amballa (E.P.R.), where no trains were running and the platforms were congested with refugees, and Saharanpur in the up, from which place E.I.R. trains were running out to the east, and except that there were no E.P.R. trains running, everything was normal, was most marked.

You will appreciate that the above refers only to trains carrying fare-paying passengers, and that there was, during this period, considerable movement of refugees, military specials and goods traffic, especially food trains, both within the new Dominions and across the border.

Yours faithfully,

A. A. MAINS,
Lt.-Colonel

Shorter Trains and More of Them

Birmingham September 8

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your comment on my letter of August 16 is ingenious but quite unfair. If you are prepared to amend the statement to read: "What our correspondent really wants is 'Shorter and Much Faster Trains and More of Them,'" we should be in complete agreement and the argument would be settled to our mutual satisfaction. May I ask you in fairness to publish this further comment.

Your very truly,

WILFRED G. POLACK

[Our correspondent has now stated what he wants, but we do not subscribe to his amendment.—ED., *R.G.*]

Locomotive Works Plates

The Railway Executive,
Eastern & North Eastern Regions,
Press Relations Officer,
11, Blandford Square,
London, N.W.1
September 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Replying to Mr. J. B. Latham, whose letter was published in your issue of September 10, whilst it is true that in a few cases Doncaster works plates have had the lettering "Great Northern Railway" or "London & North Eastern Railway" inadvertently removed, fresh instructions were issued recently whereby locomotives built before January 1, 1948, will continue to carry the original owning railway company's or maker's works plates unaltered.

The works plates of new engines built in the workshops of the Eastern and North Eastern Regions will carry only the name of the works at which built, the works serial number, and the year built

Yours faithfully,

GEORGE DOW

The Somerset & Dorset Railway

Trevone Bay, Padstow,
Cornwall. September 3

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It would appear from his letter in your issue of August 20 that Mr. Smart has not actually read pages 67-68 of the book to which he refers.

The facts he gives are precisely stated by my co-author and myself, except that the date of incorporation in the Southern Region was one month earlier than that quoted by us. The date February 2 was supplied to us officially at the time of going to press and was correct at that time. Obviously a later decision to change this date could not be included in our book.

Yours faithfully,

C. R. CLINKER

The Scrap Heap

An Historical Parallel

As the question of a general colour scheme for British Railways is still undecided, it is not without interest to note that a similar position was created in 1839 on the North Midland Railway. A letter sent to a Wm. Bagshaw, Esq., Railway Office, Camden Station, London, was phrased as follows:—

Railway Office, York,
Feb. 15, 1839

Dear Sir,—I have to acknowledge the receipt of yours of the 9th instant, and shall be glad to see you in York at the time appointed.

In answer to your enquiries I beg to state that the colour of our coaches are at present intended to be the same as those on the London & Birmingham Line—and as respects our wagons it is not yet decided neither is the uniform of our men.

With respect to the Leeds & Selby I believe they don't pay much respect at present either to colour or uniform.

We have ordered part of our turnplates they are 13 feet diameter.

We have ordered three engines. One which we have got the cylinders are 11 inches diameter with 5 ft. 6 inch driving wheels, they are adapted for our line of every gradients.

Our carriages and wagons are the same size as the London & Birmingham although of a different and I trust better construction.

I am not yet able to say what sites they are on the Leeds & Selby Line.

I am Dear Sir,
Yours respectfully,
P. Cabry

* * *

One-Way Traffic

Another 10 "Merchant Navy" class engines are about to appear in the Southern Region. They are nearing completion at the Eastleigh works.

First cousin of the "Battle of Britain" class locomotives, they will, like their 20 predecessors, carry the names of shipping companies. New Zealand Line will be the first of the new batch.

It will be followed by such names as Holland, America, Holland Africa, East Asiatic, Brocklebank, Lamport and Holt, Port, Clan, Ellerman and Elder Dempster.

Fifty years ago shipowners might have reciprocated in this business. I doubt, however, if any shipowner wants to launch a vessel called Southern Region.—*"Peterborough" in "The Daily Telegraph."*

* * *

Fresh Fish

Several small trout have been found alive in the tank of the tender of a locomotive at Barnstaple Junction Station. They are fed periodically by the driver and fireman.—*From "The Times."*

* * *

A Factory Will Go by Rail

The complete equipment of a factory is to be transported by British Railways, Western Region, from Hayes, Middlesex, to the Fforestfach Trading Estate, Swansea. The removal, which is to be completed in ten days, starts on September 20, and will involve the conveyance of 200 tons of machinery and castings and 150 tons of metal tube stock used in the manufacture of fire extinguishing sprinklers. The largest piece of machinery is a drill weighing 3 tons and 11 ft. high. Rail transport will be between Hayes and Swansea High Street stations, collection and delivery at the factories being carried out by Western Region heavy road haulage staff, who also will be responsible for loading and unloading the machinery and castings.

* * *

100 YEARS AGO

From The Railway Times, *Sept.* 16, 1848

London and North Western Railway.—Rumoured Retirement of both the Secretaries.—The *Morning Herald* says:—"We learn with unfeigned regret that Mr. Creed and Mr. Booth gave in their resignations on Saturday last. It is not necessary that we should say of these gentlemen more than that they, and Mr. Saunders, the secretary of the Great Western, are universally acknowledged to be three of the ablest railway men of the day. We believe that both Mr. Creed and Mr. Booth join the Direction. This, it must be confessed, is but a poor satisfaction for the loss of their constant, vigilant, and able supervision of the internal affairs of the Company; and we say this with a full knowledge of the various circumstances under which the resignations have taken place.

The "Tea-Time" Pullman

Owing to a typist's error, a recent paragraph regarding the Tyne-Tees Pullman train narrowly escaped having the above heading.

* * *

Descriptive

Length record in office names must surely be held—on Merseyside at any rate—by the one at a Liverpool railway station which calls itself the Parcels-arriving-by-train-and-addressed-to-be-called-for office. Which is descriptive if unwieldy.—*From the "Liverpool Daily Post."*

* * *

A Proper Livery

All sorts of traffic problems are found in our English cities, but at least we escape one which has just been satisfactorily solved (or so one hopes) by the city fathers of Mexico City. According to a brief *Associated Press* message dated August 13, from that centre of civilisation and the gay life (and quoted by the New York *Herald Tribune*):—

> Nude women painted on the backs of buses must be clothed within fifteen days, the Federal District Traffic Office said today. The advertising pictures distract other drivers, the office said.

So by this time one fears that the capital of Mexico must be a more decorous if slightly duller city—at any rate in the matter of undraped lovelies on the backs of buses.

Will they, one wonders, by this time have gone into beach pyjamas or full coat and skirt? And will advertising revenues suffer even while bus drivers (who sound rather a susceptible race in Mexico City) are less distracted?

Perhaps the New York *Herald Tribune* will find time and space to tell us more about this rather human problem. It makes a welcome change from too much about the Presidential election and the warring complexities of that wonderful American Constitution. — *From "The Manchester Guardian."*

* * *

Perambulating Propaganda

(Bookstall services have now been introduced on certain Pullman trains)

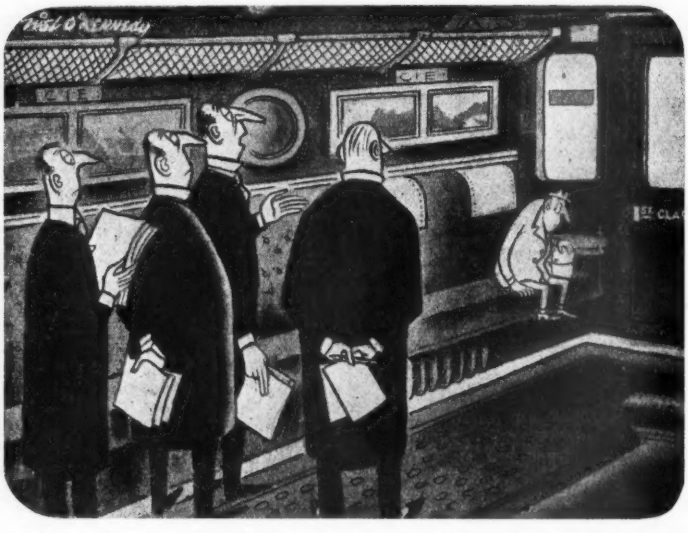
What's this they tell us of bookstalls *de luxe*,
Magazines, newspapers, all sorts of books,
News, sport, and politics, hot from the press,
Served with the scrambled eggs (hot, more or less)?

Grim exhortations to keep on pursuing
Austerity's path, though exhausted with queueing;
Black-market stories from city to coast—
All on the plate with the sardines on toast.

"Everything's perfect — everything's wrong,"
We read as we rush to the gay Continong;
"Down with the blackshirts, the green and the red!"
Screams from the headlines alongside the bread.

"Nothing is new 'neath the sun," said the sage,
And so we discover in this modern age
History repeating itself here and there,
With *Punch* still the prize for the proud passengaire.

A. B.



"And, of course, Sir James, no study of the company's financial difficulties is complete without reference to the problem of the first class passenger with a third class ticket"

[*From "Passing Variety," Dublin*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

RHODESIA

Rates Increases Envisaged

The General Manager, in a recent address, expressed apprehension that costs of working were steadily rising, especially costs of staff, stores, and increased debits in hire accounts with adjoining railways. He pointed out that if these cost increases persisted without counteracting increases in revenue through movement of more of the higher-rated traffics, rates and fares would have to go up, which would add to a vicious spiral at a time when every effort should be made to reduce the cost of living in the colony. Slowness of Customs clearance is one of the main disabilities handicapping the railways, and the General Manager said that Customs and others should lose no time in adjusting themselves to the greatly increased tempo of railway working, as the capacity of the railways is steadily rising and will be substantial from the end of the year onwards.

SOUTH AFRICA

Conversion of Narrow-Gauge Line

In the northern Cape, a narrow-gauge line connects Upington with the agricultural settlement of Kakamas. It has been decided to convert this line to 3 ft. 6 in. gauge to enable it to cope with the rapidly increasing agricultural production along this stretch of the Orange River. The conversion of this line, 55 miles long, is expected to cost £191,600, and of this amount, £42.500 will be spent this year.

Although the conversion entails considerable expenditure, the railways will be able to economise in other directions. The repair, maintenance, and servicing of out-of-date narrow-gauge engines has become an expensive item and, in any case, the track itself would soon have had to be relaid. It will also be possible to dispense with a large part of the labour force now required to tranship traffic at Upington, and use the labour more profitably elsewhere.

Operating Results

The operation of railway, harbour, steamship, airways, and aerodrome services resulted in a surplus of £130,228 for April. Revenue amounted to £6,939,214 and expenditure to £6,767,890, excluding net revenue appropriations. Additional traffic led to increased operating costs, but revenue, largely influenced by improved receipts from goods traffic and harbour dues, was also higher. In May there was a loss of £460,940. Three public holidays in this month, on which days truck loadings were restricted, adversely affected railway earning capacity. The total revenue for the month amounted to £6,750,738; expenditure totalled £7,211,678. Expenditure was high because of increased maintenance costs, heavy overtime payments and cost of living allowances. The accumulated deficit for the two months April and May, 1948, was £330,712.

Ton-miles for revenue-earning traffic amounted to 919,887.758 in March this year, compared with 855,830,150 in March last year. The average length of haul also increased; in March, 1947, it was 248 miles for goods and minerals, and in March, 1948, 261 miles. Coal increased from 241 miles to 242, and livestock from 246 to 271. The total tonnage of revenue-earning traffic for the financial year ended March 31 last was 45,047,577, and the ton-mileage figure was 10.645,024,773. Corresponding figures for the preceding year were 43,077,220 and 10,249,943,758 respectively.

UNITED STATES

Passenger Traffic Figures

For the first four months of 1948, Class I railways recorded passenger revenues of $271,626,608. Passenger-miles totalled 11,168,470,979, a reduction of 11 per cent. compared with the same period of 1947, and passengers carried numbered 103,034,841, a reduction of about 10 per cent. These figures exclude season ticket statistics.

FRANCE

Railway Engineers Lost in Sahara

Three French engineers, MM. Crochette, Achard, and Bizouerne, engaged in surveying work for the Mediterranean-Niger Railway Company, with the chauffeur of their trans-Saharan car, were found dead of thirst in the Sahara desert on August 6, eight miles from the nearest water-hole. Starting on July 20, the expedition had attempted to reach the Telemsi Valley north of the great bend in the River Niger. Receiving no reply to radio messages, the company on July 22 sent out a relief car, which encountered great difficulties through violent sandstorms, but on August 2 the engineers' abandoned car was found, and four days later the four bodies.

M. Depret, General Manager of the company, set out from Oujda and organised another expedition to ascertain further details of the tragedy. His party, though travelling in specially equipped motorcars, found it impossible to cross the Tanezruft region of the Sahara and was obliged to return. The heat was so intense that the motors could not be kept running except between 3 a.m. and 8 a.m. When they stopped and set up tents for shelter from the sun, the shade temperature was 50° C. (122° F.). The water reserves rapidly neared exhaustion. M. Depret determined to try again and left Colomb-Béchar, a station near the present terminus of the Mediterranean-Niger Railway, by plane on August 12 for Gao on the Niger, at the entrance to the Telemsi Valley.

ITALY

Circumvesuvian Railways

The Circumvesuvian railways, a narrow-gauge system of electric lines radiating from Naples towards the south and the east, belonging to the Società per le Strade Ferrate Secondarie Meridionali, total 81·9 route-miles. The latest addition was made in November last, when the 7·8 mile extension from Castellammare along the northern coast of the Sorrento Peninsula to Sorrento town was opened. Castellammare Terme was originally the terminus of a branch, 6·8 miles long, from Torre Annunziata, on the company's main line. Torre Annunziata is 13 miles from Naples, and concurrently with the construction of the Sorrento line a second track was built for the Torre Annunziata—Torre del Greco section, 4·3 miles long in the Naples direction. All the lines (formerly steam-worked) have the 3 ft. 1½ in. (950 mm.) gauge. The building of the extension and the second track entailed an expenditure of more than lire 1,000 million, for which a state loan was obtained.

Expanding State Railways Rolling Stock

By the end of June, 1948, the goods wagon stock of the State Railways consisted of 113,269 serviceable vehicles, as compared with 91,253 wagons at the end of 1947. This increase is the more remarkable as the wagon industry is still hampered by shortage of materials. On the other hand, there was a falling-off in the demand for vehicles owing to the deterioration of the economic position and the consequent contraction of trade and industrial activities in recent months.

In the quarter ended June 30 last the following new or repaired rolling stock was placed in service: goods wagons, 2,287; coaches, luggage vans, and postal vans, 171; steam locomotives, 26; electric locomotives, 23; internal combustion railcars, 53; electric railcars, 9.

The 3,460 goods wagons which were built by private industry during the first half of the current year, bring the total of goods wagons constructed by private industry since the liberation of the country to June 30 last to 16,807.

ROUMANIA

New Railway Construction

According to a recent message from Belgrade a new standard-gauge railway 34·2 miles long is being built in north western Roumania. It is to extend from Cluj, second largest town in the country, on the Bucharest-Teius-Oradea main line, eastwards along the northern bank of the Somesul river to Apahida, 7½ miles. Between these places the southern bank of the river is skirted by the above-mentioned main line, which is double-track from Apahida to Teius, 56 miles further south. From Apahida the railway is to continue through hilly country north-eastwards to Sarmas on the Ludus-Bistrita standard-gauge line. Ludus is 24·2 miles south of Sarmas on the 240-mile standard-gauge railway connecting Razboieni (on the Teius-Cluj main line) with Adjud on the Bucharest-Cernauti main line.

JUGOSLAVIA

New Railway in Macedonia

A new railway about 40 miles long is being built in south-west Jugoslavia in the part of the Macedonian Federative Republic bordering on Albania and Greece. The line branches at Bitola from the standard-gauge line from Titov Veles (on the Skopje--Gevgeli-Salonica main line) to Kremenica, the frontier station on the Greek border (north of Florina in Greece), and runs west skirting the northern tip of Prespa Lake. It crosses the mountain range, 3,870 ft. high, which divides that lake from the Lake of Ohrid. Ohrid, on the north-east shore of the lake, is the terminus of the new line, and there connection is made with the narrow-gauge line, 145 miles long, running north *via* Podmolje, and thence north-east *via* Tetovo to Skopje. From Podmolje, 4·3 miles north of Ohrid, a short branch leads west to Struga, 5 miles from the Albanian frontier. Struga is to be the terminus of the Albanian railway now being built as an extension of the Durazzo-Pecin line. In this way, the new line Bitola-Ohrid is to be a link in the first railway connection between Greece and Albania.

Limestone from Caldon Low

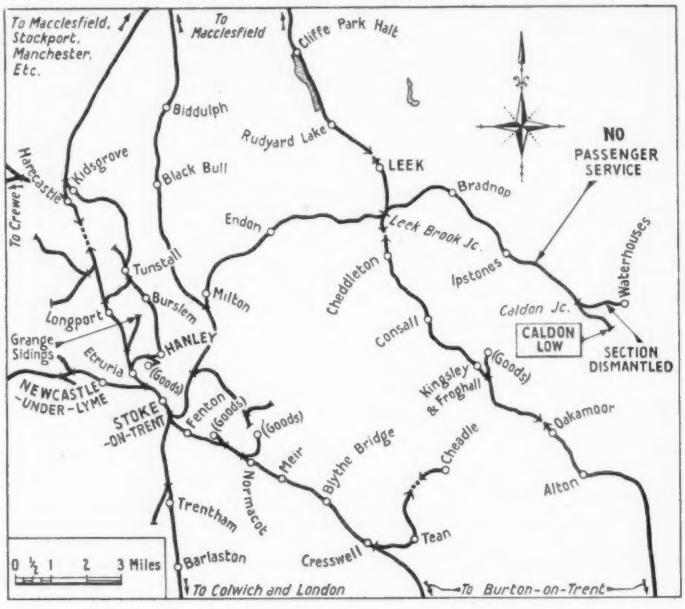
Supply of ballast and other material from quarries with comprehensive railway facilities

LIMESTONE from the Caldon Low quarries leased by Hadfields (Hope & Caldon Quarries) Limited, a subsidiary company of Derbyshire Stone Limited, Matlock, from the Railway Executive, is supplied to numerous districts of the London Midland Region as ballast, for which purpose it has the special qualification of being one of the hardest limestones in the country, specimens having withstood a crushing test of 33,000 lb. per sq. in. The history of the quarry workings dates back to the 18th century, and is associated with several early tramways built for removing the stone from the quarries. It was from Caldon Low in recent years that the foundation stone was obtained for building the new Euston Station, the rock being selected from a total of approximately 100,000 tons brought down by a shot fired by the late Lord Stamp by pressing a button in the shareholders' meeting room at Euston. The firing of the shot was reported in our issue of July 15, 1938.

At the present time, the quarries have direct railway connection with Leek, on the Manchester-Uttoxeter line of the former North Staffordshire Railway, which is joined at Leek Brook Junction. From this junction also a line runs to Stoke-on-Trent.

Apart from the value of their output for railway uses, the quarries are a source of traffic of increasing importance in numerous industries. Limestone powder is used extensively in coal mines to reduce the inflammability of coal dust and the effect of underground explosions; and as a soil fertiliser it is of special importance to agriculture. Lump and crushed limestone is supplied for metallurgical purposes, as a concrete aggregate, and for use in the refining of sugar beet, and as tarmacadam for road construction purposes.

Caldon Low is situated some eight miles east of Leek, in Staffordshire, just off the former North Staffordshire branch from Leek to Waterhouses. The quarries are served by a spur about a mile in length, leaving that line at Caldon Junction. During the war, the section of the line between Caldon Junction and Waterhouses was taken up, and there is no passenger service over the remaining portion. However, Caldon Low goods station handles local public traffic, mainly agricultural, in addition to its work for the quarries. Some three miles of private sidings are available to the quarry company at Caldon Low.



Principal railway connections with Caldon Low quarries

The limestone is hauled by diesel locomotives from the quarry face in jubilee wagons over the company's own narrow-gauge railway system in trains made up of 20-30 tipping wagons of 2 cu. yd. capacity each. The narrow-gauge quarry system feeds materials to the standard-gauge sidings at two levels, the upper tracks from the main quarry face terminating alongside the primary crushers, where the stone is broken down into various sizes, screened, and stored in hopper bunkers with a capacity of 1,000 tons, for discharge into the standard-gauge wagons below. Lump stone for the sugar beet industry and for foundry purposes is loaded into railway wagons direct from the narrow-gauge tipping wagons on the lower level tracks. An incline with a power-operated winch enables the narrow-gauge wagons to be transferred between the two levels as required. A conveyor connects the crushers with the adjacent tarmacadam plant and grinding unit for stone requiring further processing before despatch.

A train of 25-ton hopper wagons can be loaded with 300 tons of ballast in half an hour, and the hopper wagons or common users can be placed in position by gravity for loading. There are usually two train departures from the quarries daily; wagons leave the sidings marshalled in order of destination, and the trains are split up at Leek Brook Junction. The afternoon train runs through on the Stoke line to Grange Sidings, Etruria, with wagons for the Shelton Coal & Iron Co. Ltd. Services to and from Caldon Low are worked by L.M.S.R. Class "4" 0-6-0 locomotives.

All the fixed machinery at Caldon Low is powered by electricity, the company having its own sub-station on the site. Some loading of stone is done by hand at the present time, but a full scheme of mechanisation will be completed shortly and the developments in progress will increase the potential output of the quarries, and railway ballast in particular will be available for supply to an even wider area than at present. The large output, efficient and extensive siding accommodation, and excellent loading facilities, combine with the geographical position of the quarries to give a first class service to the railway system.

SOUTHERN REGION EXCURSION TRAFFIC.—In connection with the flying display and exhibition at Farnborough on Saturday and Sunday, September 11 and 12, British Railways, Southern Region, issued cheap day tickets from London and many suburban stations to Aldershot. These tickets were available by all trains arriving at Aldershot before 3 p.m., and the third class return fare from Waterloo was 7s. 4d. Recent special excursions for Londoners arranged by the Southern Region included trips from Victoria to Brighton on Tuesday, September 14, and Victoria to Herne Bay, Margate, Ramsgate, and to Eastbourne, Bexhill, and Hastings on Wednesday, September 15. The third class return fares for these excursions were at considerably less than the ordinary single fare, and bookings were available from many suburban stations *en route*, including Catford, Bromley, and Clapham Junction. There also were trips from Streatham Hill and district to Brighton and Worthing on Monday, September 13, and from Deptford and neighbouring stations to Herne Bay, Margate, and Ramsgate on Thursday, September 16.

AMERICAN LOCOMOTIVE COMPANY CENTENARY.—The American Locomotive Company will celebrate the centenary of locomotive building in Schenectady from September 24-26. The company and its President, Mr. Robert B. McColl, will be honoured at a dinner on September 24, which will mark for Mr. McColl the completion of 50 years as a locomotive builder. The centennial programme will begin on September 24 with the dedication of a 110-ft. flagpole in Crescent Park, the company's sesquicentennial birthday gift to the people of Schenectady. On September 25, open house for Alco employees and their families will be held at the locomotive plant, and will include a tour of inspection of historical exhibits, model locomotives, trains, etc.

BRITISH STANDARD FOR ALLOY STEEL CASTINGS.—The British Standards Institution has published B.S.1458-9, which includes two specifications for alloy steel castings for structural and general engineering purposes. Copies may be obtained from the Institution, Sales Department, 24, Victoria Street, London, S.W.1, at a cost of 2s. each, post free.

Limestone from Caldon Low

(See article opposite)

Caldon Low quarries, showing L.M.R. sidings in foreground, and, beyond the crushers, tarmacadam plant, and grinding unit. The branch from Leek Brook Junction is seen crossing the road on the left. On the right, nearer the workings, is part of the company's narrow-gauge system

Photo] [Aerofilms Limited

INSTITUTE OF TRAVEL AGENTS CONFERENCE.—The annual conference of the Institute of Travel Agents will be held at Southport, Lancs., from October 15-17. Proceedings will open on the evening of October 15 with a civic reception given by the Mayor of Southport. As in pre-war years, the annual dinner will be open to representatives of the transportation companies and other officials of the travel industry. Further particulars can be obtained from Mr. J. R. Thomas, F.C.A., Secretary, I.T.A., 10, Norfolk Street, Strand, London, W.C.2.

ENGINEER BUYERS & REPRESENTATIVES ASSOCIATION.—The Engineer Buyers & Representatives Association, which was formed about a year ago, reports that considerable progress has been made in the work of organisation. An address has been secured at 47, Victoria Street, London, S.W.1, memorandum and articles of association drawn up, and printed matter defining the requirements for membership and the purpose of the Association has been produced. The first President of the Association is Sir Herbert G. Williams. The Honorary Vice-Presidents are Messrs. C. Edgar Allen and L. E. van Moppes. The General Secretary is Captain Arthur J. Dronsfield, at 47, Victoria Street, S.W.1 (telephone: Abbey 3583; telegrams: Ebandra, Sowest, London). District Secretaries are:—Midlands: Mr. Herbert Smith (23, Hardwick Road, Streetly, Staffordshire); West of England: Mr. Bernard Pidd (Little Burcott House, Burcott, near Wells, Somerset).

LOCOMOTIVE DEPOTS ON TIME COMPETITION.—Efforts to maintain a high standard of punctuality on British Railways, Southern Region, are being helped by the introduction of a competition between the various locomotive depots. Each month a chart is prepared which shows the number of passenger train-miles run, and against this figure the men can see what minutes have been lost by their depot for every thousand of these passenger train-miles. In this competition, main line, branch line, and local line drivers and firemen each within their own group, can aim at being top of the league for being on time, always bearing in mind that speed restrictions must be complied with and that safety comes first. During the four-week period ending in August, St. Leonards depot was top of the main-line group with only 0·84 min. lost per thousand passenger-miles run. In this group, affecting ten depots, the group average was 7·54 min. lost per thousand miles, although nearly a million passenger train-miles were run.

BUENOS AIRES OFFICIALS VISIT LONDON TRANSPORT.—Mr. H. J. McPhail, Signal Engineer of the Buenos Ayres Great Southern and the Buenos Ayres Western railways, accompanied by Mr. E. R. Bonner, Traffic Assistant & Timetable Superintendent, and representatives of the consulting engineers, visited London Transport signalling installations on September 2. They inspected the Signal Training School at Earls Court and the signal cabin at Cromwell Curve, and later saw the new signalling system at Liverpool Street Station and signalling installations on the Central Line Eastern Extension. The party was conducted by Mr. A. J. Webb, Outdoor Superintendent (Railways), London Transport.

The Clachnaharry Swing Bridge, Scottish Region

Improvements have been carried out this year to ensure increased distribution of the live load

CLACHNAHARRY swing bridge, which carries British Railways, Scottish Region, Highland main line over the Caledonian Canal, is situated about 1¼ miles north of Inverness. The bridge was brought into use in 1862, at the opening of the line from Inverness to Dingwall by the Inverness & Ross-shire Railway; it was built by Fairbairn & Company, Manchester, and received a major repair by Sir William Arrol & Company, Glasgow, during 1909.

As constructed, the bridge was of the single-line wrought-iron type, and the main girders were double-webbed or box, with curved top flanges. The cross-girders rested on the bottom flanges with the rails carried on longitudinal running timbers. The decking consisted of longitudinal planking resting on the cross-girders. The bridge was swung on a live ring of rollers by means of manual power acting through gearing to a toothed rack bolted to the centre pier, and had special wedging arrangements at the ends to ensure rigidity under load and easy action when it was opened and closed. From the centre pivot to the nose end and the heel of the bridge, the dimensions were 77 ft. 9 in. and 49 ft. respectively, the long arm being over the canal.

From 1909 onwards only minor maintenance repairs were carried out as required, but when the track proper became due for renewal this year, it was decided to carry out further improvements to ensure increased distribution of the live load on the bridge and thereby still further improve the stability and stiffness of the structure. This repair was carried out during May, 1948, and necessitated closing the bridge to railway traffic from 11 p.m. Saturday, May 15, until 11 p.m. Sunday, May 16. Before this date, traffic was carried over the canal by 80-lb. bull-head rail on chairs supported by timber waybeams positioned in the deck troughs of the bridge. This track was replaced by a continuous flat-bottom rail approximately 130-ft. long and weighing 113-lb. per yd., which projected at either end beyond the bridge proper and rested on steel soleplates attached to the abutments.

The landward rail on either side of the bridge consisted of a 60 ft. length of flat-bottom track, which in turn butted on the bull-head track. At the same time, two new specially-designed slot bolts were added to further stiffen and obviate lateral movement of the structure under live load. It should be pointed out that provision had to be made in the new locks for the limited vertical movement brought about by the live load and the variations in temperature which was an important feature, as the bridge level varies with atmospheric conditions.

The timber running beams originally had to be undercut to allow for small difference in level of the cross-girders, and opportunity was taken to weld steel packing-plates to the cross-girders, thus enabling running beams of uniform depth to be used. Signalling arrangements and winding gear also have been modernised. The repair work was carried out under the supervision of Mr. A. McIntosh, District Engineer, Inverness, Scottish Region.

Clachnaharry swing bridge, Scottish Region, which carries the Highland main line over the Caledonian Canal

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CANADIAN PACIFIC RESULTS.—Figures for Canadian Pacific Railway July operations show a recovery from the previous month's drop. Gross earnings totalled $29,816,703, compared with $27,546,064 in June, and expenses amounted to $28,051,696, against $31,653,003.

PRODUCTION OF GERMAN GOODS WAGONS RESUMED.—The internal-combustion engine and rolling stock works at Augsburg and Nuremberg, Maschinenfabrik Augsburg-Nürnberg, completed early in September the first goods wagon to be built in Germany since the war. The wagon has been built at the Nuremberg works which produced four goods wagons an hour during the war until four-fifths of the works were destroyed by bombing. The programme in hand envisages the building of ten goods wagons during the current month, and production will gradually be stepped up until December next, when the output is to reach 30 wagons a month.

BRUSSELS JUNCTION LINE TWICE A "DORMITORY."—During the war the underground floors of the future Central Station on the Nord-Midi Junction Railway in Brussels, now under construction and described in the February 13 issue, were used as air-raid shelters and furnished with comfortable beds. Since September 4 an initial portion of the tunnel for the Junction line has been taken into railway service; electric trains on the Brussels-Antwerp route are being stabled for the night in the part of the tunnel underneath the Botanic Gardens, just beyond the new high-level Nord station, now being built.

MACROME LIMITED OVERSEAS AGENTS.—Macrome Limited has appointed the following agents:—West Africa: West African Engineering Co. Ltd., P.O. Box 8, Sekondi, Gold Coast; Italy: British Italian Trading Co. Ltd., 75, Bishopsgate, London, E.C.2; Norway: Nielsen & Danielsen A.S., Tollbodgt 25, Oslo.

Hunslet-Built 2-8-0 Locomotive for the Peruvian Corporation

An oil-burning locomotive with low axle-loading for the metre-gauge Guaqui—La Paz line

ON the Guaqui-La Paz Railway of the Peruvian Corporation, as on many other Andean lines, locomotive axle-loads are strictly limited by rail weights and bridges, and in a new 2-8-0, which has been built by the Hunslet Engine Co. Ltd., the maximum that could be allowed was 10¼ tons. The locomotive, which is intended for freight and mixed working on this metre-gauge line, will work over routes that almost entirely are above 12,000 ft., and its principal dimensions are as follow:—

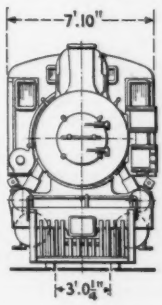
Cylinders (2), dia. × stroke	16 in. × 24 in.
Wheels, coupled, dia.	3 ft. 10 in.
Working pressure	200 lb. per sq. in.
Heating surfaces :—	
Large tubes	258 sq. ft.
Small tubes	560 ,,
Firebox	93 ,,
	911 sq. ft.
Superheating surface	183 sq. ft.
Grate area	16 ,,
Tractive effort at 75 per cent. boiler pressure	20,000 lb.
Factor of adhesion	4·5

Other leading dimensions will be found in the diagrams illustrated below.

Though equipped with oil-burning apparatus, the locomotive is suitable for burning soft coal when the refractory lining is taken from the firebox, grate bars dropped in, the burner taken off, and the oil tank and heating coils in the tender removed.

The boiler barrel is in two $\frac{9}{16}$-in. rings with a maximum outside dia. of 4 ft. 9⅛ in. A shallow round-top flush firebox is fitted, and the inner box is of steel with ⅜ in. wrapper and backplate and a ½ in. tubeplate. The foundation ring is unusual in being 4 in. wide at the front, 2½ in. wide at the sides, and 3 in. at the back. Because of the steep grades the distance between inner and outer crown plates is comparatively great for the dia. of boiler, namely, 1 ft. 5½ in. at the front and 1 ft. 8½ in. at the back. Within the breaking zone the water-space stays are of the Flannery flexible type; the remainder are plain, though of Hollow Longstrand steel $\frac{15}{16}$ in. dia. The firebox grate is 7 ft. long.

Contained in the barrel are 16 flues, 5½ in. o.d. by 8 s.w.g., housing 16 elements 1¾ o.d. by 9 s.w.g., and 90 tubes 2 in. o.d. by 11 w.g. and 11 ft. 10⅛ in. between tubeplates. Tubes and flues are of galvanised Acquacidox; no ferrules are used, but all tubes and flues are beaded and welded at the firebox end and are surrounded by copper sleeves at the firebox tubeplate. Lagging arrangements comprise asbestos mattresses for the firebox and dome top and there are Newallite blocks round the barrel and dome.



Boiler fittings include two 2½-in. Ross safety-valves; three 1½-in. Evrit blow-off cocks; three Alco standard-gauge cocks; two Dewrance prismatic water-level indicators; a No. 7 Simplex Nathan non-lifting injector; and a No. 7 Davies & Metcalfe exhaust-steam injector.

Each cylinder is cast integrally with its valve chest and half

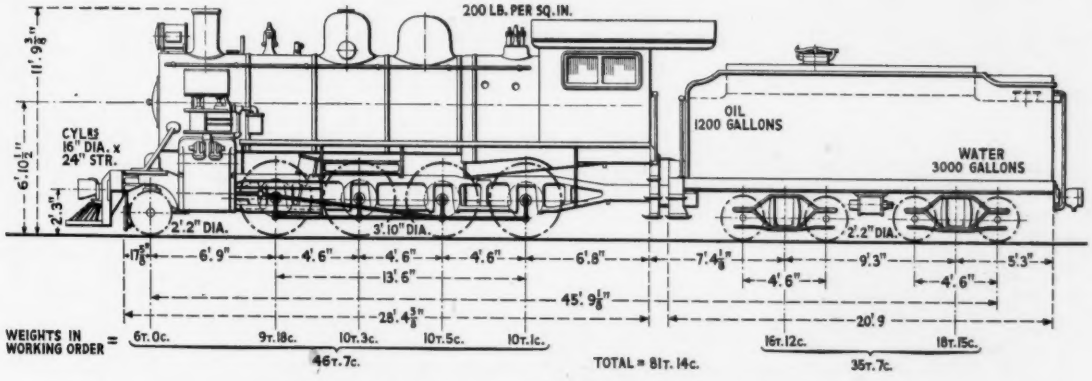
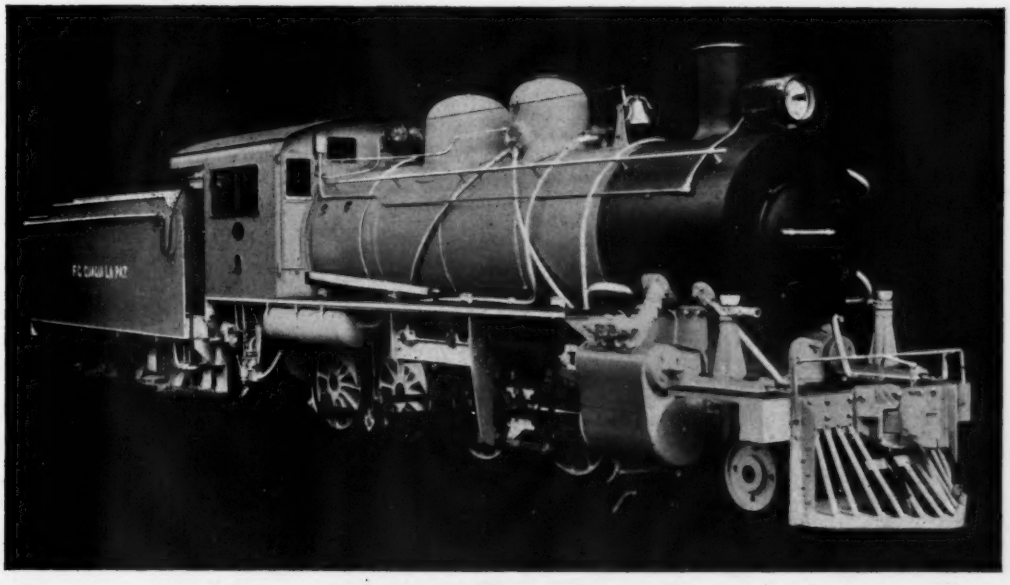


Diagram showing principal weights and dimensions



General view of the 2-8-0 locomotive built by the Hunslet Engine Co. Ltd. for the Peruvian Corporation

the smokebox saddle and is secured to the frame by 1⅛-in. driven bolts and adjustable wedges. Transverse distance between cylinder centres is 5 ft. 4 in. The drive is on to the third pair of coupled wheels through connecting rods 8 ft. 2 in. long. Inside admission piston valves with four-ring heads 8 in. dia. are actuated by Walschaerts valve motion to an unusually high standard of design, as may be gauged by a consideration of the proportions as shown on the diagram and by the accompanying table of full-gear events.

Forward gear

Lead		Opening		Cut-off		Travel
FP	BP	FP	BP	FP	BP	
¼	¼	1⅜	1½	81	81	4

Backward gear

Lead		Opening		Cut-off		Release		Travel
FP	BP	FP	BP	FP	BP	FP	BP	
¼	¼	1 7/16	1 7/16	81	79	93	95	4⅛

Slip of die-block in full forward and back gears is 7/16 in.

All valve motion pins have grease lubrication and are 1½ in. dia.; lever reverse is provided on the right-hand side. The 3½ in. dia. piston rod has Britimp metallic packing. The connecting rods are of the I-section solid-end type with wedge adjustment, though the coupling rods have plain bushes.

Bar frames made from steel slabs 3 in. thick, and with a minimum depth of 4¼ in. above the boxes, are used as the foundation of the locomotive and are spaced 2 ft. 3 in. apart. They are braced by cast-steel and plate cross-stretchers, and at the front is a thick cast-steel buffer beam carrying a Visco Alliance centre-coupler, with Simplex coupler pocket. All the coupled axleboxes are of cast steel, with gunmetal bearings having whitemetal inserts, and the bearings are 7 in. dia. by 8 in. long at 2 ft. 6 in. transverse centres. Wedge adjustment is provided at the back of each box. Substantial horn-stays are secured to the frame by 1-in. driven bolts. All coupled wheels are flanged and the distance between tyres is 3 ft. ¼ in.

Springing is on a compensated composite system making use of laminated and helical springs. The leading truck has two transverse laminated-springs, each of eight ⅜ in. by 3 in. plates, and this group is connected down each side by beams to the overhung laminated springs of the first and second coupled-wheel pairs; these springs comprise 11 plates 7/16 in. by 3 in. and 2 ft. 4 in. pin centres. The two trailing coupled-wheel groups are compensated down each side by beams across each box, an intermediate laminated spring of 11 plates, 7/16 in. by 3 in. and 2 ft. centres, with a coil spring of 1/16 in. dia. wire, 3 in. o.d., and 6¾ in. free length at each end of the group. The swing-link pony truck itself has 5 in. by 8 in. axlebox bearings inside the wheels and the radius bar is 4 ft. 9 in.

No. 6ET Westinghouse air-brake equipment with an 8½-in. cross-compound compressor, applies blocks on all coupled wheels and all tender wheels, and provides air for the train brakes. The compressor unit is mounted at the left-hand side of the smokebox. The two 10 in. dia. by 8 in. stroke brake-cylinders on the locomotive, are located almost vertically between the frames behind the leading coupled axle, and the retarding force is applied through fully-compensated rigging, in which the brake blocks are on the ends of the cross-beams.

Other equipment included in the locomotive is hand sanding gear for each direction, with a 9 cu. ft. sandbox on top of the boiler; 110-V. Pyle-National electric lighting set with connection for train lighting; and Wakefield Eureka sight-feed lubricator with two feeds to the cylinder barrels, two to the steamchests, and one to the air compressor.

All the leading dimensions of the double-bogie tender are shown in the diagram on page 327. The frames are of 8-in. channels and carry a Visco Alliance automatic coupler at the back end. The intermediate drawbar has a Spencer Moulton rubber spring at the tender end. The watertank is U-shaped, with the lower portion of the oil tank fitting into the space between the legs. Both tanks are steel welded and riveted up. One 10 in. by 12 in. Westinghouse cylinder provides the braking force on the tender, and the rigging operates in conjunction with a hand brake.

A New Self-Propelled Mobile Crane

Four-motion 12½-ton model designed for heavy work

TO meet a demand for a flexible heavy-goods handling equipment, the firm of Steels Engineering Products Limited, Sunderland, has produced a 12½-ton Coles mobile crane, which is available for petrol, electric, or diesel-electric operation.

The crane has four motions, namely, hoisting, derricking, slewing, and travelling, each operated by separate electric motors, controlled from the driving seat on the revolving superstructure. All the crane motors have reversing switches which automatically reverse the steering gear when the driver faces the rear of the chassis.

The controls are also fitted with the latest safety devices, including self-resetting limit switches to prevent over-winding and over-lowering of the hoisting motion, and to prevent over-derricking; hoist, derrick, and slewing motions are stopped by electro-magnetic brakes, and an indicator shows the maximum loads which can be lifted at various radii. Optional features include compressed air-operated clutch and brakes to permit a free running hoist barrel for rapid lowering.

The superstructure can be revolved completely round the chassis in either direction. When handling heavy loads, the chassis is jacked with outriggers to provide a fixed base, but with loads of 8½ tons and under, the crane is fully mobile. The crane is fitted with a sectional strut-type jib, and travels on six double pneumatic-tyre road wheels, which allow low wheel loading.

With the standard 30-ft. jib and outriggers in position the crane is designed for a maximum load lift of 12½ tons at 10-ft. radius. Proportionately lighter loads can be handled at longer radii up to a maximum of 29 ft., at which loads of 3½ tons can be lifted. With an 80-ft. jib and outriggers in position, ¾-ton can be handled at 70-ft. radius. Fully mobile, without outriggers and fitted with standard 30-ft. jib, loads can be varied from 8½ tons at 10 ft., to 2¼ tons at 25 ft. 9 in. radius.

Operational speeds on level ground are: hoisting, 10 tons at 15 ft. per min., down to 2 tons at 90 ft. per min.; derricking, maximum to minimum radius in 90 sec.; travelling, up to four m.p.h. unloaded. Ground adhesion and travelling power are unaffected by the load, which can be carried with the jib in any position. Ample stability factor ensures safe working with a swinging load. The crane also will negotiate a maximum incline of 1 in 10 unloaded. With a 30-ft. jib at maximum radius, the overall length is 45 ft. and the width 9 ft. 3 in.; unladen weight is 22 tons.

The main driving gears run in totally enclosed oil baths, and all mechanism is protected by hinged-steel panelling, allowing easy access to working parts.

General view of the new Coles 12½-ton mobile crane

LIGHTING REGULATIONS FOR ROAD VEHICLES.—New road vehicle lighting regulations which will come into force on January 1 next, deal with the risk of dazzle coming from low-mounted headlamps or passlamps. These lamps are legal under present regulations provided they comply with certain alternative conditions, one of which is that they are permanently dipped so as to be incapable of dazzling anyone more than 25 ft. away whose eye-level is not less than 3 ft. 6 in. The effect of the new regulations is that a front lamp, unless used only in fog or snowfalls, will not be held to comply with this condition unless its centre is not less than 2 ft. from the ground. This amendment to the Road Vehicles Lighting Regulations, 1936, follows a report on interim measures for the prevention of dazzle made by the Road Research Board of the Department of Scientific & Industrial Research, and in a statement issued with the report on January 12 last, the Ministry of Transport pointed out that low-mounted lamps are a serious source of trouble because they cannot be aligned to throw the beam far enough ahead without the risk of dazzling oncoming drivers. Copies of the new regulations, entitled the Road Vehicles Lighting (Amendment) Regulations, 1948, can be obtained from H.M. Stationery Office, price 1d. net.

Recreation Cars for Pennsylvania Railroad Streamliner

(See also page 330)

Children have their own nursery, where they can play and still be under the eyes of their parents

The newsreel room, which is open day and night, is one of the features of the Pennsylvania Railroad recreation cars

One of the three recreation cars recently supplied by the American Car & Foundry Company for inclusion in the all-coach Pennsylvania Railroad streamline train "Jeffersonian"

Pennsylvania Railroad Streamliner

(*See also previous page*)

An attractive feature of the "Jeffersonian" recreation car is the sunken bar lounge where passengers can get together in a friendly atmosphere

Another view of the sunken bar lounge of the Pennsylvania Railroad all-coach streamline train which runs between New York and St. Louis

RAILWAY NEWS SECTION

PERSONAL

SOUTH WALES DOCKS APPOINTMENTS

The Docks & Inland Waterways Executive has appointed Mr. A. E. H. Brown to be Chief Docks Manager in South Wales, in succession to Mr. Leslie Ford, appointed General Manager, Port of London Authority. Mr. Brown, at present Assistant Chief Regional Officer, Eastern Region, Railway Executive, will take up his new post on October 15.

Mr. E. V. Swallow, Dock Manager, Swansea, has been appointed Assistant Chief Docks Manager in South Wales.

Mr. Neil Clark McPherson, O.B.E., who has been appointed Divisional Manager (Freight), North Eastern Division, Road Transport Executive, was born on September 26, 1892, at Cardiff. Before 1914 Mr. McPherson gained all-round commercial experience in industrial, coal and shipping companies, and he served in the first world war and was demobilised in 1919 as an officer in the 2nd Battalion, South Wales Borderers, 29th Division; he was mentioned in dispatches. After demobilisation he founded the transport business of Venn & McPherson, which started with one ex-Service vehicle, and extended until it owned depots at Newport, Cardiff, Swansea, Gloucester, and Birmingham, with organised regular daily delivery services, and connecting services. The business was sold to Pickfords Limited in 1935, and Mr. McPherson subsequently became General Manager for Pickfords (South Wales Area). In 1938 and throughout the recent war he was Road Transport Representative of Cardiff Port Emergency Committee and daily-serving member of the Transport Sub-Committee dealing with day-to-day operation of the port. In 1939 he was elected Chairman & Manager of the Joint Newport, Cardiff & Barry Port Emergency Road Transport Pool, and in 1942 he was made Divisional Road Haulage Officer for the whole of Wales, and in 1946 Divisional Road Haulage Officer, Northern & Yorkshire Traffic Areas.

Mr. N. C. McPherson

Appointed North Eastern Divisional Manager (Freight), Road Transport Executive

Mr. T. J. Hartigan, Commissioner for Railways, New South Wales, is retiring on September 30.

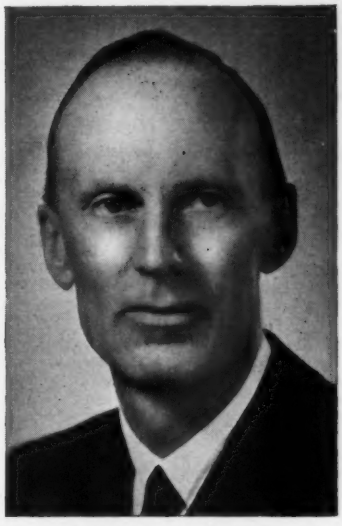
Mr. H. H. Swift, Divisional Superintendent, Cardiff, Western Region, British Railways, as recorded in our September 3 issue, has been appointed South Wales Area Officer, Cardiff. The appointment will ensure a direct liaison between South Wales and the administrative centre of the Western Region. Mr. Swift will represent the Chief Regional Officer in all contacts which, but for his new appointment, would have had to be made with that officer in London; he will also have a co-ordinating function in respect of commercial and operating matters in the area.

Mr. H. H. Swift

Appointed South Wales Area Officer, Western Region, British Railways

Mr. Swift joined the Great Western Railway in 1904, and spent two years in the Audit Office before transferring to the General Manager's Office, where he remained for nine years. From 1915 to 1923 he was attached to the Office of the Superintendent of the Line as a train runner, and he was then transferred to the Chief Goods Manager's Office as Continental Commercial Agent to the company. After holding that position for six years, he became Goods Agent, Manchester, and in February, 1934 returned to the Traffic Department as Chief Clerk to the Divisional Superintendent, Chester. In October, 1937, Mr. Swift was appointed Assistant Divisional Superintendent, Cardiff, and in March, 1941, was transferred to Paddington as New Works Assistant to the Superintendent of the Line. He was appointed Divisional Superintendent, Chester, in May, 1942, and Divisional Superintendent, Cardiff, in January, 1946. Mr. Swift at one time was a member of the Railway Traffic Advisory Committee of the Manchester Chamber of Commerce; the Railway Panel, Manchester Smithfield Market Tenants' and Traders' Association; the Railway Panel, Birmingham, South Staffs, East Worcester & North Warwick Traders' Conference; and the Manchester and Merseyside Committees on Post-War Development. At the present time he is acting as Railway Liaison Officer with the Divisional Coal Board; as a member of the South Wales Iron & Steel Traffic Committee; as Railway Labour Supply Liaison Officer (Operating Grades) with the Wales Regional Controller, Ministry of Labour & National Service; and as a member of the National Industrial Council of Wales & Monmouthshire and its ancillary Tourist & Holidays Board (Wales & Monmouthshire). He is a member of the Cardiff Business, and Cardiff & County, Clubs.

Mr. Edward Charles Bexley Thornton, M.B.E., M.I.E.E., who recently proceeded on leave prior to retirement as Electric Traction Superintendent, Great Indian Peninsula Railway, was born on July 22, 1901, and was educated at Rugby. He received technical training at Faraday House Electrical Engineering College from 1918-22, and practical training with the Aster Engineering Company, Wembley, 1919-20, at Faraday House Testing Laboratories, 1921, and with the L.S.W.R. Electric Traction Department, 1922-23. Mr. Thornton served with Callender's Cable & Construction Co. Ltd., 1923-25, and with the firm of Merz & McLellan on electrification work on the Great Indian Peninsula and Bombay, Baroda & Central India Railways, 1925-30. He joined the Great Indian Peninsula Railway in 1930 as Assistant Distribution Engineer, and became Distribution Engineer in 1941, and Electric Traction Superintendent in 1946; he served also in the Stores Department (1938); as Assistant Deputy General Manager in the Works Section (1938-39); as Secretary to the General Manager (1939 and 1940); and as Research Officer (1939-40). Mr. Thornton was placed on special duty to carry out technical investigations, in 1944-45, and to prepare a report on post-war electrification, in 1945-46. He also designed and installed the centralised supervisory control system of 12 traction substations. He served in the G.I.P.R. Regiment of the Auxiliary Force (India), 1931-46, retiring with rank of Captain, and was made an M.B.E. in the New Year Honours List, 1948.



Mr. E. C. B. Thornton

Electric Traction Superintendent, Great Indian Peninsula Railway, 1946-48

Mr. M. A. Henstock

Appointed Assistant Locomotive Works Superintendent, Derby, L.M. Region, British Railways

The late Mr. D. W. Sanford

Lately Superintending Engineer, Locomotive Testing Station, Rugby

Mr. William Galloway

Appointed Superintendent, Police Department, Glasgow, Scottish Region, British Railways

Mr. M. A. Henstock, B.Sc. (Eng.), who was recently appointed Assistant Works Superintendent, Locomotive Works, Derby, London Midland Region, British Railways, entered the service of the Midland Railway in 1919 as a privileged apprentice at Derby Locomotive Works. In 1925 he took his B.Sc. (Eng.) examination at the University of London, and in the same year was appointed a draughtsman in the Locomotive Drawing Office. In that capacity he was engaged also in experimental work and took charge of the dynamometer car during tests on many parts of the former L.M.S.R. system. In 1935 Mr. Henstock was appointed Mechanical Inspector at Euston, and transferred to C.M.E. headquarters. During the war period he was mainly dealing with Government work which was being executed in the various workshops of the company. He was appointed senior Mechanical Inspector to the Chief Mechanical Engineer at Derby, in 1943, and in 1944 was transferred to the Locomotive Works at Derby, as Assistant to the Works Superintendent for Maintenance of Locomotives.

"Sam Dunn Day"

In recognition of his "lifetime devotion and outstanding contribution to the welfare of the railroads and the railroad supply industry," some 170 prominent railway presidents and officers, supply company executives and other friends from all parts of the U.S.A. on August 16 gave a testimonial dinner to Mr. Samuel O. Dunn, Editor of the *Railway Age* and President of the Simmons-Boardman Publishing Corporation, on the grounds of the Railroad Fair at Chicago. The fair's management designated the event as "Kansas-Sam Dunn Day."

Mr. Dudley William Sanford, A.M.I.C.E., M.I.Loco.E., whose death, at the age of 58, we recorded briefly last week, was, from 1946 until he was compelled by ill-health to relinquish the position at the end of last year, Superintending Engineer of the Locomotive Testing Station, Rugby (L.M.S.R. & L.N.E.R.). During this year he had continued to carry on technical investigation in the Chief Mechanical Engineer's Department at Derby, London Midland Region. Mr. Sanford was educated at Uppingham, and at Caius College, Cambridge, where he took an honours degree in mechanical science. He entered Derby Locomotive Works, Midland Railway, in 1912. From 1914 to 1919 he served in the Royal Engineers, in France, Greece and Turkey, attaining the rank of Captain. He returned to Derby, and in 1927 was made Senior Experimental Draughtsman in charge of dynamometer car testing and other experimental work on locomotives. In 1934 he became Chief Locomotive Draughtsman at Derby, and, in 1937, Development Assistant. During the recent war he was Headquarters Fuel Efficiency Officer for the seven main works of the L.M.S.R., and he was appointed Superintending Engineer of the Locomotive Testing Station at Rugby in 1946. The large gathering at the funeral included Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region.

When the King and Queen visited Doncaster on September 11 to see the St. Leger race, they were entertained to luncheon by the Mayor and Mayoress, Alderman and Mrs. Percy Judd, and members of the corporation. Mr. Judd is a railway clerk. Among the guests were Mr. A. H. Peppercorn, Chief Mechanical Engineer, Eastern & North Eastern Regions, British Railways.

Argentine Central Purchasing Commission in London

It was recorded in our issue of June 11 last that the Argentine Special Railway Committee had appointed a Purchasing Commission under Señor Rafael Luna to supervise the acquisition of material in the United Kingdom for the re-equipment of the Argentine railways; but the abolition of the Special Railway Committee and the setting up of the Transport Secretariat has caused the annulment of the appointments to that commission. By a Government Decree, a Central Purchasing Commission has now been appointed with headquarters in London. The President is Don Juan José Vistalli; the Vice-President is Señor J. M. Dillon; and the other members are Dr. J. B. Mujica, Señor Juan Gatto, Señor H. Q. Alió, and Señor Enrique Ruata.

Mr. William Galloway, who, as recorded in our August 6 issue, has been appointed Superintendent, Police Department, Glasgow, Scottish Region, British Railways, was born at Hamilton, Lanarkshire, and joined the Police Department of the L.M.S.R. in London in 1937, after having served on a regular engagement with the Scots Guards. In 1941 he moved to Belfast as Inspector, and went to Scotland three years later as Senior Inspector and Assistant to the Police Superintendent, L.M.S.R., at Glasgow. In January, 1947, he was appointed Chief Inspector at Glasgow.

Sir Robert Sinclair has been appointed Deputy-President of the Federation of British Industries.

East African Railways & Harbours

Mr. A. Dalton, Acting General Manager, East African Railways & Harbours, has been appointed General Manager, and Mr. J. R. Farquharson, Acting Deputy General Manager, has been appointed Chief Engineer & Deputy General Manager. The E.A.R.H. was formed recently by amalgamation of the Kenya & Uganda Railways & Harbours and the Tanganyika Railways & Port Services.

We regret to record the death on September 10, at the age of 78, of Viscount Greenwood, Chairman of Dorman, Long & Co. Ltd., and a former President of the British Iron & Steel Federation.

Anglo-U.S. Council on Productivity

The following American members of the Anglo-American Council on Productivity have been appointed:—

Mr. Philip D. Reed (Chairman of the American side), Chairman, General Electric Company; Mr. Ernest R. Breech, Executive Vice-President, Ford Motor Company; Mr. Ira Mosher, President, Ira Mosher Associates, and former President, National Association of Manufacturers; Mr. J. Spencer Love, President, Burlington Mills Corporation; Mr. L. S. Buckmaster, President, United Rubber, Cork, Linoleum & Plastic Workers of America; Mr. Harvey N. Brown, International President, International Association of Machinists; Mr. Lee Minton, President, Glass Bottle Blowers' Association. One further member has still to be appointed.

Repairs to Flood Damage in the Border Country

The Railway Executive has announced that, following the concentration of materials and manpower, considerable progress is being made with the clearance and extensive repair of the Anglo-Scottish East Coast main line, which was seriously damaged by the recent storms and floods, as described in our August 20 issue.

It will be some weeks, however, before the main line between Berwick and Dunbar can be re-opened for through traffic, and a revised emergency train service was therefore introduced on Monday, September 6. Although this interim service involves the continued diversion of the East Coast expresses *via* Kelso and St. Boswells, it reduces the excess journey time over normal from the present average of 90 min. to 65-70 min. The Railway Executive points out, incidentally, that the overall London—Edinburgh journey time of "The Flying Scotsman" in the revised emergency timetable is quicker than could be achieved by diverting it to the West Coast route completely, without causing unreasonable disruption of its services.

through before too long a lapse of time, it was decided quickly to erect temporary bridges, generally of military type, and proceed with the construction of permanent bridges after traffic was resumed. By arrangement with the War Office a military bridging expert visited the sites, and decisions were made as to the most suitable form of construction, having regard to the War Department bridging materials which could be made available.

Much preliminary surveying work has been completed and schemes for the temporary structures have been worked out. Large quantities of structural material and piling, including military bridging material, have reached the Central Permanent Way Depot at Darlington, North Eastern Region, which is being used as a centre for collecting all such material in readiness for despatch to the site of operations.

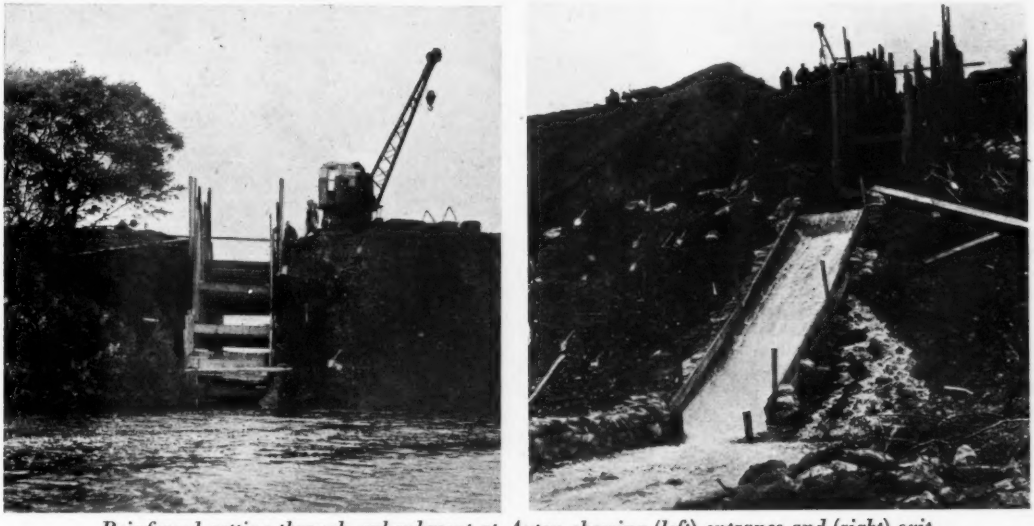
In addition to railway staff, three firms of general contractors and four boring contractors now are employed, and in all about 200 of their personnel already are engaged in the work. Arrangements have been made to provide sleeping vans to accommodate the workers.

Between Berwick and Burnmouth, where the line runs close to the sea at a height of 150 ft. above the foreshore, and where at two places slips have occurred affecting the stability of short lengths of embankment supporting the track, borers are actively engaged. Boring is necessary to locate suitable foundations for remedial works and to determine what their form should be. Much debris which had slipped on to the lines at other places between these stations has been removed, and one track has been repaired to enable material trains to move up to the site.

Between Ayton and Reston, where, because of the collapse of a culvert, a great volume of water was impounded on the south side of a high railway embankment of clay, the water began to be released on August 29 through a specially-built trench with sluiced gates fixed. The state of the embankment has not worsened.

Military-type bridging material will be used between Reston and Grantshouse to replace seven bridges which were washed away. Special roads are being cut to give access to the working sites. A contractor is clearing the line of large quantities of debris between Grantshouse and Cockburnspath and is filling in other places where the ballast has been washed away. Mechanical plant is in use and more is coming forward. Some seven miles of one track have now been cleared.

The Railway Executive states that in general good progress has been made and progress can now be expected to accelerate.



Reinforced cutting through embankment at Ayton showing (left) entrance and (right) exit

The emergency timetable operates until the introduction of British Railways winter train services on September 27, when further alterations will be made in the East Coast services. The principal interim alterations as from September 6 include:—

Services to Scotland

7.30 p.m. Kings Cross—Aberdeen (weekdays and Sundays) leaves at 6.45 p.m., weekdays and Sundays. The Fort William portion normally attached to 7.0 p.m. from Kings Cross is conveyed on the 6.45 p.m. from Kings Cross.

Departures of other northbound trains are unaltered, but booked arrival times at Edinburgh and points north thereof, are on the average 70 min. later than under normal conditions.

Services from Scotland

Journey times are on the average about 65 min. longer than shown in the normal timetables.

Departure times of some of the principal services are earlier as from September 6, for example :—

9.40 a.m. Edinburgh—Kings Cross leaves at 9.15 a.m. (runs Mondays, Fridays, and Saturdays only).

11.48 a.m. (Fridays and Saturdays) Glasgow—Kings Cross leaves at 11.25 a.m., and runs on Saturdays only.

1.45 p.m. Edinburgh—Kings Cross leaves at 1.0 p.m.

7.50 p.m. Edinburgh—Kings Cross leaves at 7.0 p.m.

9.30 p.m. Edinburgh—Kings Cross leaves at 9.10 p.m. (Mondays, Fridays, and Saturdays only).

10.0 p.m. Edinburgh—Kings Cross leaves at 9.40 p.m.

10.20 p.m. Edinburgh—Kings Cross leaves at 10.0 p.m.

6.45 p.m. Aberdeen—Kings Cross leaves at 6.30 p.m.

Because of the magnitude of the damage, and the necessity for getting traffic

B.T.C. Acquires Tilling Interests

Thomas Tilling Limited announced on September 8 that agreement had been reached with the British Transport Commission for the acquisition by the Commission of all of that company's interest in passenger road transport and road haulage undertakings, with the minor exception of Ford Limited.

As a result of the vesting in the Commission of the four main-line railway companies, the Commission had already become possessed of a share practically equal to that of the company in the majority of these interests and undertakings. The agreement does not, however, cover undertakings which are not affected by the Transport Act, 1947, and the company will retain its interests in the Cornhill Insurance Company, Daimler Hire, Stratstone, and F. Troy & Co. Ltd. and its subsidiaries, which are not connected with the transport subsidiaries; the London Passenger Transport Board "C" stock (now converted into Transport stock) and the current assets of the company are also retained by it under the agreement, and the company will discharge its own liabilities.

Subject to any detailed adjustments, the purchase price receivable by the company is expected to be £24,800,000. The Commission will have the benefit of profits since December 31, 1947, but will pay interest on the purchase price as finally settled at 3 per cent. per annum from January 1, 1948. The settlement of the purchase price will be made either in the appropriate amount of Transport stock or in cash, or partly in one form and partly in the other.

We refer in an editorial article to some of the implications of this important deal.

Ministry of Transport Accident Report

London Bridge, Southern Region, British Railways: January 23, 1948

Brigadier C. A. Langley inquired into the accident which occurred at 9.35 a.m. on January 23, 1948, at London Bridge, Southern Region, British Railways, when the 8.5 a.m. electric passenger train, Seaford to London Bridge, which was composed of 12 coaches, one a Pullman car, containing 300 to 400 passengers and weighing about 509 tons, and approached on the up through line, overran the inner home signal and collided at about 15 m.p.h. with an empty electric 12-coach train which was standing in No. 14 platform awaiting signals to leave for New Cross Gate.

Both motormen's cabs were telescoped back to the guard's van partitions and the empty train, which had its brakes off, was driven into the buffer stops, where the body and underframe of the rear coach were forced off the bogie on to the concourse, and demolished a bookstall, before coming to rest 23 ft. beyond the end of the platform. Damage to the other coaches of both trains was slight. There was no interlocking or overriding of buffers, except at the point of impact.

The motorman of the colliding train and a passed fireman travelling with him to refresh his route knowledge, were trapped and died of injuries before they could be extricated, despite strenuous efforts to effect that, and an intending passenger was fatally injured when the waiting train was driven on to the concourse. Seventy-four passengers, two railway servants, a member of the Pullman car staff, and two bookstall employees were injured or suffered from shock, three being detained in hospital. First-aid was rendered immediately and doctors and ambulances arrived within 8 min. Traffic was considerably dislocated; 24 trains had to be cancelled and 54 others altered in working. Weather was fine and the rails dry.

The diagram on page 335 shows the lines, signals, points, track circuit sections, and so on, necessary to an understanding of how the accident took place.

Signalling

All-electric multiple-aspect signalling is in use throughout the area. Between Bricklayers Arms Junction and London Bridge outer home signals, there are a number of 3-aspect automatic signals. The route indicators at the intermediate homes display a letter indicating to which section of lines, such as A, B, C, the route is set, and those at the inner homes display a number denoting the platform into which an incoming train is being directed. Siting of outer and intermediate homes is excellent, but the view of the inner homes applicable to sections D, E, F, is obstructed at long range by other gantries, although a clear view for 200 yd. is obtained when traversing crossover 165 from the Up Through to E section, the route taken by the train from Seaford.

Running signals require shunt signals ahead to be "off" in addition to the route requiring to be correctly set up. The controls on the inner homes are such that a green light is shown when the platform line is clear to the buffer stops and a yellow one when it is clear to the last track-circuit, with red when any other platform track circuit is occupied. Shunt signals in this area show a small red, or small green light, and are located either on the ground, as in the case of No. 140, or on a gantry, as in the case of No. 176.

The Course of Events

Traffic at London Bridge is very heavy and some 2,300 movements are dealt with in the 24 hr. In the peak period 180 trains are handled in 1 hr. from the 311 lever power-frame, served by a Yard Inspector in general charge, 6 signalmen and 4 booking boys at busy periods. All concerned in this case gave clear and consistent evidence.

The Seaford train was due to enter No. 16 platform and was running behind the 8.44 a.m. from Tattenham Corner. The latter had a clear run into No. 10 platform, after being stopped at the intermediate home signal, in consequence of the 9.3 a.m. train leaving No. 13 platform. This check in turn delayed the Seaford train, so the signalman concerned decided to set up parallel movements in the following order:—

(i) Despatch an empty train from No. 15 platform through crossovers 127, 164, 51, to the South London line.
(ii) Route the Seaford train through crossover 165 and points 139 to E Section inner home and then, when the line was clear, allow it to enter No. 16 platform through 136 normal and 118 reversed.
(iii) Despatch the empty train from No. 14 platform.

He reversed lever 136, to enable a colleague to set 127 crossover for the empty train to leave platform 15, and then cleared outer home 175. As soon as the Tattenham train ran into platform 10, he reversed 139, cleared shunt signal 140 and intermediate home 184, to allow the Seaford train to run up to inner home 177, and while it was doing so, reversed 134 in readiness for the departure of the other empties from platform 14. He was waiting to restore 136 to normal when the overrun occurred and these points were, in consequence, held locked, set for the occupied platform 14.

In the meantime, the other signalman had been waiting for the 9.34 a.m. empties to clear track circuit No. 110 so that he could replace 127 and free 136 for restoring to normal. He was not sure whether he moved 127 before the accident and evidence regarding its position afterwards was not conclusive. In any case, the time available for these movements was very short—probably less than 20 seconds—and the Seaford train had passed 165 when the rear of the empties was still on the track circuit.

Seeing the Seaford train overrunning at, he thought, 20 m.p.h., the signalman called for flags, rushed to the window and shouted to the driver. The guard of that train was knocked down by the collision and suffered from shock. His evidence, given a month later, was hazy and not altogether reliable. He was stopped about 2 min. at an automatic signal and then saw outer and intermediate homes at yellow, but did not notice any route indicator letter. He could not see the inner home in any case, but felt the train accelerate and thought the driver must have seen it clear for him. He thought he saw shunt 140 at green, but could not feel sure about it, and did not see 135 before or after the collision.

Wreckage at London Bridge Station after the collision

A clear account of the accident was given by the motorman of the empty train waiting in platform 14. He had taken his seat and was waiting for signals when he saw the Seaford train approaching at normal speed. He thought it was going into either 13 or 15 platform, but, when it was a few yards off, saw it to be on his own line and jumped out of his cab. He recognised the motorman and saw a second man leaning against the offside cab window. He then heard the motorman shout and the noise of an emergency brake application. This was too late to have effect and he thought the speed was about 10 m.p.h. at the moment of collision.

The motorman of the empty train which left platform 15 at 9.34 a.m. saw, as he approached crossover 51, the Seaford train traversing crossover 165. He also recognised the motorman and saw the second man looking out in front. He was confident that the motorman was driving and

—as far as he could see—paying attention to his work and not conversing.

Immediately after the accident, an assistant lineman was sent to check the aspects of the inner home signals, and a lineman examined the positions of the levers in the locking frame. All the inner homes were at red, but the aspects shown by shunts 135 and 140 could not be checked as the Seaford train interrupted the view from the gantry. All relevant signal levers were found to be normal, except 140, which was reversed and the signal showing a green aspect. Point levers 134, 136, 139, 165 were reversed.

A lineman remained in the signal box until 10 a.m. and did not see any lever operated in the middle of the frame, either for testing or any other purpose. He was confident that the levers of the inner homes and shunt signal 135 were normal.

The chief lineman had spent some time in advising his inspector about the accident, and arrived in the box at 9.50 a.m. He also checked the positions of the levers and later tested 135 and 179, without finding any fault. He explained that 140 was backlocked by track circuits 95, 96, 97 occupied, but the lever of 135 was free.

The signal & telegraph sub-inspector arrived at 9.55 a.m. and checked the position. He confirmed that all relevant levers, 135 included, were normal, but that 140 was reversed. He left about 10 a.m. and verified the correctness of the signal aspects by visual inspection.

All this independent evidence confirmed that of the yard inspector and the signalmen, who were quite emphatic that all inner home signals, main and subsidiary, were at danger, and also shunt No. 135. On the other hand, when a carriage & wagon inspector, in company with a chief inspector and an assistant, were examining the Seaford train at about 9.50 a.m., the first-named noticed a shunt signal at green and pointed this out to his colleagues, both of whom confirmed his statement. In spite of considerable cross-examination all three witnesses were confident that this signal was 135, not 140.

A brake inspector tested the equipment of the Seaford train and found nothing wrong with it.

Inspecting Officer's Conclusions

This accident was caused by the Seaford train overrunning the inner home signal, but the circumstances in which this occurred must remain a matter for conjecture. There is no doubt, however, concerning the indications displayed by the approach signals. Consideration of the various interlocking and track circuit controls enabled Brigadier Langley to be satisfied that the train was correctly signalled and should have been brought to a stand at the inner home, clearly visible for 200 yd. and in full view after the train entered crossover 165. The route *via* E section is constantly used by trains running into platforms 14 to 16, and a stop at the inner home by no means unusual. The motorman, a man of 37 years' experience, should not have been taken by surprise at finding the signal at danger. There is no evidence that he attempted to stop before running into platform 14, and the guard thought the train accelerated after passing the intermediate home.

Brigadier Langley considered whether any adjacent signal might have been showing green and been read by mistake by the motorman, but was satisfied that all relevant signals were at danger, for the following reasons.

The G section inner homes were locked by lever 139 reversed. Those for F sec-

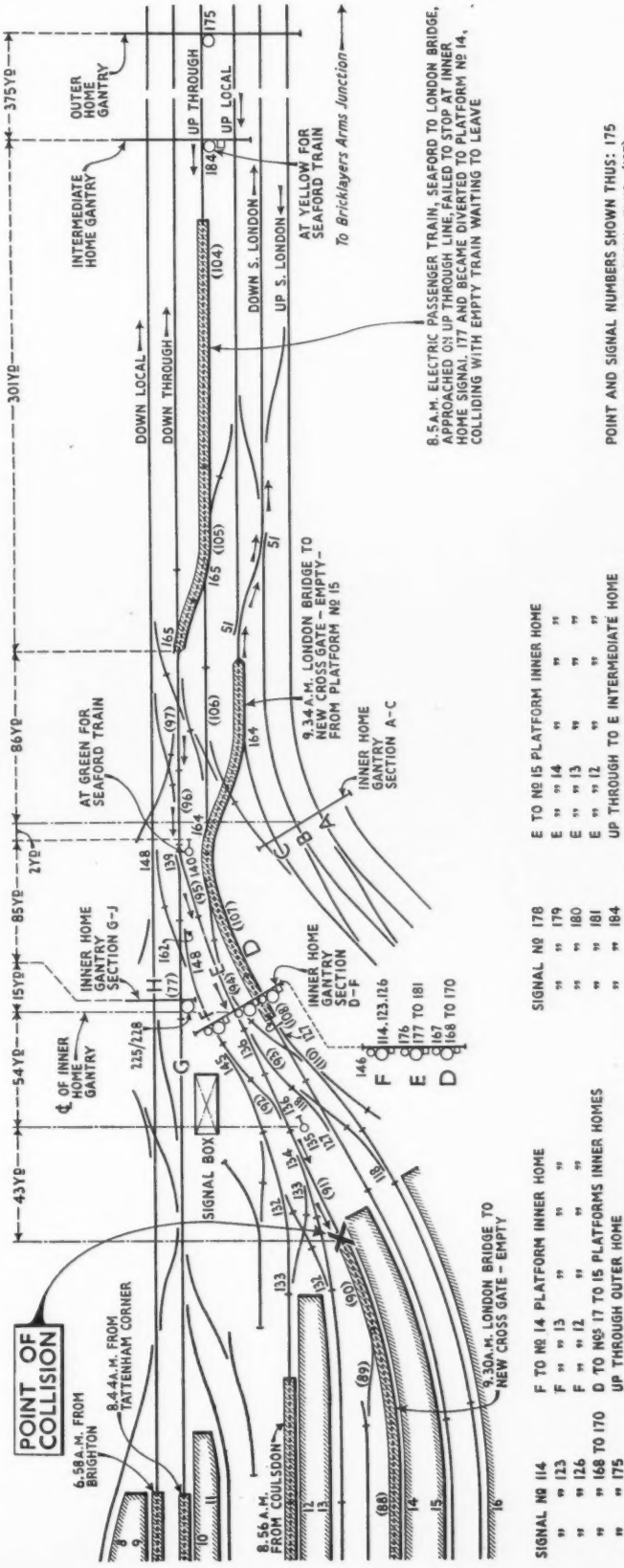

POINT OF COLLISION
6.58 A.M. FROM BRIGHTON
8.44 A.M. FROM TATTENHAM CORNER
8.56 A.M. FROM COULSDON
9.30 A.M. LONDON BRIDGE TO NEW CROSS GATE – EMPTY
SIGNAL BOX
℄ OF INNER HOME GANTRY
INNER HOME GANTRY SECTION G-J
INNER HOME GANTRY SECTION D-F
INNER HOME GANTRY SECTION A-C
AT GREEN FOR SEAFORD TRAIN
OUTER HOME GANTRY
INTERMEDIATE HOME GANTRY
DOWN LOCAL
DOWN THROUGH
UP THROUGH
UP LOCAL
DOWN S. LONDON
UP S. LONDON
AT YELLOW FOR SEAFORD TRAIN
To Bricklayers Arms Junction
9.34 A.M. LONDON BRIDGE TO NEW CROSS GATE – EMPTY – FROM PLATFORM Nº 15
8.5 A.M. ELECTRIC PASSENGER TRAIN, SEAFORD TO LONDON BRIDGE, APPROACHED ON UP THROUGH LINE, FAILED TO STOP AT INNER HOME SIGNAL 177 AND BECAME DIVERTED TO PLATFORM Nº 14, COLLIDING WITH EMPTY TRAIN WAITING TO LEAVE
43YDS
54YDS
15YDS
85YDS
2YDS
86YDS
30IYDS
375YDS
SIGNAL Nº 114 F TO Nº 14 PLATFORM INNER HOME
" " 123 F " " 13 " " "
" " 126 F " " 12 " " "
" " 168 TO 170 D TO Nºs 17 TO 15 PLATFORMS INNER HOMES
" " 175 UP THROUGH OUTER HOME
" " 177 E TO Nº 16 PLATFORM INNER HOME
SIGNAL Nº 178 E TO Nº 15 PLATFORM INNER HOME
" " 179 E " " 14 " " "
" " 180 E " " 13 " " "
" " 181 E " " 12 " " "
" " 184 UP THROUGH TO E INTERMEDIATE HOME
" " 225 TO 228 G TO Nºs 11 TO 8 PLATFORMS INNER HOMES
POINT AND SIGNAL NUMBERS SHOWN THUS: 175
TRACK CIRCUIT NUMBERS SHOWN THUS: (107)

Diagram illustrating circumstances of collision at London Bridge on January 23, 1948

tion were free of the mechanical locking but, as platforms 12 and 14 were occupied, the only route that could have been set was to platform 13 through 132, 145, 162 reversed. Of these, 162 was locked normal by 139 reversed. The signalman could not have set that route, and had it been free had no reason to do so, for the Seaford train was too long for that platform and the empties from platform 14 were due to leave in the opposite direction. The D section inner homes were held at danger by the fact of the rear of the 9.34 a.m. empties being on certain track circuits. No shunting movements were taking place and there was no reason for either of the subsidiaries 146 and 167 to have been cleared, and they were found to be at danger within 2 min. of the accident.

The carriage & wagon inspector and his two colleagues, however, stated that shunt signal 135 was showing green, but it will be appreciated that they did not see it until a quarter of an hr. after the accident. Long before they arrived, a lineman and the signalman concerned had examined the lever frame and all were confident that 135 was normal. Furthermore, its operation was not required for movement from E section to platform 16, nor could it have been left off after the arrival of a train in platform 13 at 9.25 a.m., because it had to be replaced before points 134 were reversed.

Brigadier Langley is satisfied that this signal also was at danger when the Seaford train passed, and that either it was cleared temporarily by some person in the signal box after the accident, or the inspector mistook it for 140, which was correctly showing green.

He has no criticism to make of the signalman's action in setting up routes in anticipation of future movements. Unless this were done it would be quite impossible to work a busy station, such as London Bridge, during peak traffic. The routing of the Seaford train was quite normal and there was no question of a last-minute alteration.

It can only be concluded that the motorman could not have been keeping a vigilant look-out as he approached the inner home. Possibly, when he saw shunt signal 140 at green, he assumed that the inner home also would be clear, although if he had looked up at the gantry he could not have missed seeing such a conspicuous stop signal. The man travelling with him might have warned him, but, if he did so, his warning was either too late or was disregarded. It is more probable that he also did not notice the signals, and the possibility that the two were in conversation and distracted each other's attention cannot be ruled out entirely, although the motorman who passed them thought they were attending to their work.

The motorman had suffered from a duodenal ulcer in April, 1946, but was passed fit for duty seven weeks later, examined thereafter every two or three months until passed fit for normal duty in May, 1947. There is no indication that he suffered from illness on his last fatal journey. He appeared to others who saw him to be in complete control, and the post mortem showed that he died from injuries and no other cause.

Remarks

In view of the risk of serious or fatal injury in a collision it is desirable to provide a means of escape for a motorman, if this is practicable. On the more modern suburban electric trains and on most of the Brighton, Eastbourne, and Portsmouth main-line stock of the Southern Region, access to the guard's van has been given through a door on the off side, opening into the motorman's compartment, and this arrangement is to be maintained. A door of this type was provided in the cab of the Seaford train, but the passed fireman, who was standing with his back to it, apparently did not have sufficient time to pull it towards him and escape. It is for consideration whether this door could not be provided on the near side, behind the motorman's seat, and opening outwards into the guard's van.

The effects of this accident would have been reduced, and some of the fatalities might not have occurred, if hydraulic buffers had been provided. Unfortunately, the additional space required for their installation is such that traffic working would have been severely affected by a reduction in the length of platform lines. However, the advantages to be gained from reduction of shock in the case of both major and minor impacts are such that no doubt the question of provision of these stops will be reviewed when the station is rebuilt.

This collision provides another example of the inexplicable failure of the human element. Brigadier Langley can find no adequate reason to account for the motorman's lapse, and has no recommendations to make regarding the signalling arrangements.

Institution of Railway Signal Engineers

Indian Section : Paper on repeater signals

The first regular general meeting of the Indian Section of the Institution of Railway Signal Engineers, which had been inaugurated at an informal meeting some three months previously, was held on June 6, 1948, in Bombay, with the Chairman, Mr. H. C. Towers, Deputy Chief Engineer (Signals), B.B.C.I.R., presiding, supported by the Vice-Chairman, Mr. C. Scarff, and the Honorary Secretary, Mr. L. W. H. Lowther, eight members and four visitors; among the last-named were Mr. N. S. Sen, General Manager, B.B.C.I.R.; Mr. S. S. Vasist, General Manager, G.I.P.R.; and Pandit P. N. Mubayi, Government Inspector of Railways, Circle No. 5. Mr. Towers explained how the section had been formed following the endeavours made by Mr. F. L. Castle, President of the Institution in 1947, to awaken a greater interest in its work overseas.

Mr. E. W. Battams, Signal Engineer for the metre-gauge lines of the B.B.C.I.R. at Ajmer, then read a paper entitled "Repeater Signals" (that is, signals used to repeat at some convenient distance in rear the indications given by a running signal, the sight of which may be obscured). The paper dealt primarily with practice on the B.B.C.I.R., and emphasised that there were as many forms of repeater signal in India as there were railways, due to the managements putting their own interpretation on the requirements and the work of the standardisation committee. Generally, Mr. Battams thought that repeater signals were undesirable and unnecessary, although cuttings and tunnels made them unavoidable in some instances. The Indian General Rules made no mention of the need or desirability of repeating stop signals, and rule 21 laid it down that fixed signals should be clearly visible to the driver of an approaching train, which implied the ability to pull up within the range of visibility. There was nothing said or implied to the effect that the visibility of a home signal should be such that a driver, finding the outer signal defectively off, should be able to stop in time. They envisaged the possibility of invariably providing a long running sight of the home signal and protected the driver from the consequences of passing an irregularly lowered outer.

The driver had a right to good and clear signals. It was the signal engineer's job to give them to him, but more thought ought to have been given to ensuring accurate working of the outer signals. When the home signal was not visible from the outer or braking distance was inadequate, they had only to deal with the case of the outer being off and the home not in sight, or in other words assuring the driver that the outer was legitimately "off." Drivers had come to regard the outers as liable to be faulty by reason of eccentric behaviour of the wires, but a repeater was liable to be similarly affected.

What form should a repeater signal take. Mr. Battams thought it should resemble the signal repeated, but many considerations precluded using a red home arm. A yellow one should be used, with yellow and green lights. The green light had dangers, however, when used in repeaters, another reason why they were undesirable. The arm should be square or pointed. A fish-tailed arm would be confusing. There should also be a letter "R" on a target on the post. Undoubtedly the best course was to concentrate on obtaining outer signals that worked without fault.

Mr. C. Scarff thought that repeater signals were necessary and approved the type of arm suggested by Mr. Battams.

Mr. W. C. Liebenhals said that with "A Class" working on double line the single warner signal had a yellow fish-tailed arm, and thought some other distinctive design for a repeater was called for in consequence. There was no question of accurate working of an outer, which was not provided at "A Class" stations.

Mr. G. S. Ghokale considered that a disc marker on the post was necessary, even with a yellow arm, as the double line "A Class" warners were of that colour.

Pandit P. N. Mubayi considered repeater signals to be useful. Aspects should be standardised and entirely distinct from those given by other signals, both by day and night. A white arm, illuminated at night, would do all that was required.

Mr. N. S. Sen did not like using the yellow light for repeaters, and discussed the possibility of using purple.

Mr. S. S. Vasist wished to see the number of repeater signals reduced. He thought they should be of the same colour as the signal they repeated, but the suggestion made by Mr. Sen was deserving of serious consideration. Such signals might perhaps show green and blue together.

Pandit Mubayi preferred repeater signals to be entirely different from the others. He thought that white would be a good colour for them.

Mr. H. C. Towers, moving a vote of thanks to the author of the paper, gave details of the arrangements on British Railways, including the special floodlit outer distant discs on London Transport lines run over by steam goods trains.

Minister of Transport Visits France

On September 7, 8, and 9, Mr. Alfred Barnes, Minister of Transport, visited France to gain an insight into French transport systems, especially the work of reconstruction in progress or already completed on the French National Railways.

He was entertained by the S.N.C.F. on September 8 at a luncheon with Sir Oliver Harvey, British Ambassador, also a guest, when he expressed appreciation of the aid afforded him by M. Marcel Flouret, President of the Council of Administration, and M. Maurice Lemaire, Director General of the French National Railways, and the courtesy shown by the S.N.C.F. officials in explaining technical details.

Mr. Barnes said that he was impressed by the reconstruction work at the two war-scarred ports of Havre and Rouen. The French engineers had taken advantage of the widespread destruction to embody in the new wharves and docks up-to-date improvements with many improvisations that made ingenious use of old materials and cut down costs.

The party travelled by road from Havre to Rouen, and after inspecting the works at Rouen, continued by road to Paris.

Visits were made on September 8 to railway stations in the south-eastern suburbs of Paris, and the bomb-wrecked marshalling yards at Juvisy, Corbeil, and Villeneuve-Saint-Georges. It was explained that co-ordination of the great volume of freight traffic to and from south-eastern and south-western France is a guiding principle in the reconstruction and reorganisation of these three yards.

First, the party saw restoration already effected at Juvisy, and in the afternoon inspected the yards at Corbeil and Villeneuve-Saint-Georges. Complete reconstruction of the Villeneuve yard is being pushed forward in preparation for the electrification of the former P.L.M. main line. As the old sidings were on different levels, the whole yard is to be levelled.

Other obstacles to reorganisation were the Pont de Pompadour, a bridge forming a bottle-neck on the Paris side; the Ceinture, or Outer Circle, railway embankment crossing the yard; and the bomb-battered old locomotive depot. The Pompadour bridge is being lengthened and widened, the embankment converted into a viaduct, and the depot rebuilt.

The Villeneuve yard will have an entirely new layout, with a unified group of reception sidings up to lengths of 900 yd. for receiving the electric trains. The work is being carried out in three stages without interrupting the traffic, averaging 2,500 wagons a day. Mr. Barnes was particularly interested in the cement train used in the Pompadour reconstruction. The new depot is a roundhouse on the model of the Avignon prototype, adapted to the reception of electric locomotives.

On September 9, Mr. Barnes visited police headquarters in Paris, where he was received by M. Leonard, Prefect of Police. M. Jules Moch, Minister of the Interior, an authority on transport questions, and M. Georges Maurice, Director General of the Paris police, were present. Methods of dealing with Paris transport problems were explained and visits were made to congested traffic centres.

Mr. Barnes next visited the Metropolitan Railway, where he was received by M. Stahl, Director General. Various points of interest in operation were explained. Mr. Barnes was struck by the fact that a flat fare of five francs (about 1½d.) would carry a passenger to any point on the system, and remarked that it was a great advantage for workmen travelling to and from the suburbs. He took a short trip in a Metro train from Strasbourg-St. Denis Station to the Opéra, and also visited the psycho-technical laboratory where prospective Metro train and bus drivers are tested for physical fitness before being appointed. Mr. Barnes went to the bus terminus at the Porte Champerret and rode on a trolleybus through Neuilly. In the afternoon, Mr. Barnes and his party visited the bridges under reconstruction in the suburbs of Argenteuil and Bezons. He left for London on the morning of September 10.

Scottish Region Football Specials

The Scottish Region of British Railways made several special arrangements for the handling of football crowds on Saturday, September 11, and for the Rangers *v.* Clyde match, five additional trains were run from Glasgow Central to Ibrox (Edmiston Drive) at 1.54, 2.5, 2.15, 2.26, and 2.39 p.m. Four additional trains were provided from Bridgeton Cross at 1.30, 1.45, 2.5 and 2.20 p.m., calling at Dalmarnock and Rutherglen. For the same game, a train was run from Motherwell at 1.20 p.m., calling at Hamilton Central, Hamilton West, Blantyre, and Newton.

In connection with the Morton and Third Lanark match, which was played in the evening at Love Street, Paisley, an additional train was arranged from Glasgow Central at 5.8 p.m., returning from Paisley, Gilmour Street, at 8.5 p.m. Two additional trains were run for the Morton supporters, leaving Gourock at 4.15 and 4.38 p.m., Greenock West 4.22 and 4.45 p.m., Greenock Central 4.25 and 4.48 p.m., Cartsdyke 4.31 and 4.54 p.m., Bogston 4.34 and 4.57 p.m., Port Glasgow 4.37 and 5 p.m., and Woodhall at 4.44 and 5.7 p.m. returning from Paisley, Gilmour Street, at 7.57 and 8.7 p.m.

Four additional trains were run from Glasgow Central (Low Level) to Parkhead for the Celtic *v.* Hibernian game. The trains left at 1.50, 2, 2.18, and 2.29 p.m., and called at Glasgow Cross. Three of the trains started from Possil at 1.35, 1.55, and 2.5 p.m., calling at Maryhill, Partick West, and Partick Central Stations. In connection with the same match, a train left Shotts for Parkhead at 1.35 p.m., calling at Hartwood, Cleland, Holytown, Bellshill, Uddingston, and Newton. There was also a direct train from Edinburgh Princes Street, Merchiston, Slateford, West Calder, and Addiewell to Parkhead, leaving Princes Street at 1.12 p.m.

A special train was run from Grangemouth at 1.30 p.m., calling at Falkirk and Greenhill, for Flemington, in connection with the Motherwell and Falkirk game.

ARGENTINE GREAT WESTERN RAILWAY CO. LTD.—It has been announced that the preferred, preference, and ordinary stocks of the Argentine Great Western Railway Co. Ltd. will be paid off on October 4. A circular to stockholders intimates that out of the balance of the Argentine Great Western Fund, amounting to £3,443,750, a full and final liquidation distribution will be paid in the proportions laid down in the general repayment scheme, as follows:—5 per cent. preferred: £37½ per cent.; 6 per cent. guaranteed preference: £65 per cent.; ordinary: £17½ per cent.

Notes and News

Production Engineer Required.—A production engineer is required by an engineering works in India engaged in the manufacture of boilers, locomotives, road rollers and rolling stock. See Official Notices on page 339.

North British Locomotive Order for Victoria.—A £1,000,000 order for 50 steam locomotives for the Victorian Railways has been placed with the North British Locomotive Co. Ltd. They are for freight traffic and are expected to be delivered in 1950.

Assistant Engineers for Signalling Work Required.—Applications are invited for assistant engineers, between 25 and 35 years of age, for signalling work in the signal electrical branch of the New Zealand Government Railways. See Official Notices on page 339.

Locomotive Draughtsman Required.—A locomotive draughtsman is required by the Iraqi State Railways for a tour of three years in the first instance. Candidates must have served an apprenticeship in the workshop of a British railway or firm of locomotive builders. See Official Notices on page 339.

Doncaster Engineering Society. — A paper, "Some Unusual Railways of Great Britain," will be read by Mr. R. Shepherd before the Doncaster Engineering Society, at 7 p.m., October 2. The paper, which will deal with narrow-gauge railways, will be illustrated by slides and is to be read in the Technical College hall, Doncaster.

Institute of Traffic Administration.—The first meeting of the North East Coast Section of the Institute of Traffic Administration will be held at 7 p.m. on Thursday, September 30, at the County Hotel, Neville Street, Newcastle-on-Tyne, 1. A debate will be opened by Mr. R. Dryden on the subject of "The future position of transport under nationalisation."

Medical Organisation of French National Railways.—Dr. Le Gô, Chief Medical Officer, Northern Region, French National Railways, gave a lecture, on September 15, at the ninth International Congress of Industrial Medicine, on "The Medical Organisation of the S.N.C.F." A model of a medical room as standardised by the S.N.C.F. is among various exhibits on show in the Bishop Partridge Hall, Church House, Westminster, S.W.1, from September 13 to 17 inclusive.

The Institute of Welding.—The autumn meeting of the Institute of Welding will be held on Wednesday and Thursday, September 29 and 30. At 2.30 p.m. on September 29, there will be a discussion on "Technical Training for the Associate-Membership Examination of the Institute," to be opened by Mr. T. R. B. Sanders at the Institution of Civil Engineers, Great George Street, London, S.W.1. A dinner and dance will be held at 7 for 7.30 p.m. at the Café Royal, Regent Street, London, W.1. On September 30, at the Institution of Mechanical Engineers, Storey's Gate, S.W.1, a session has been arranged by the British Welding Research Association from 10.30 to 12.30 a.m. when Mr. H. G. Taylor, Director of Research, British Welding Research Association, will speak on "Some Aspects of Welding Research in Great Britain and America." After a luncheon at the Church House Restaurant, Great Smith Street, there will be a discussion at the Institution of Mechanical Engineers at

2.30 p.m. on "The Training of Welders," to be opened by Messrs. F. Clark, S. W. Carpenter and R. J. Fowler. A paper entitled "Repair and Reinforcement of Metal Bridges by Welding" will be presented by M. André Goelzer, Vice-President of the French Society of Welding Engineers, at 6 p.m.

Liverpool Overhead Traffic.—At August 30, Liverpool Overhead Railway aggregate receipts were £1,306 below last year's total, though in the week ended that date an increase of £75 was registered. Traffics for the week ended August 30 were £3,226 and brought the aggregate up to £97,878.

Scottish Region Public Relations Office.—The Public Relations Office of the Scottish Region, British Railways, has moved from its accommodation at Central Station, Glasgow, to 179, Howard Street, Glasgow, C.1. The telephone number remains the same (Douglas 2900, extension 115).

L.M.R. Permanent Way Course.—Forty-one Permanent Way Supervisors of the London Midland Region are at present undergoing a two-weeks intensive course at the Derby Railway School of Transport. The syllabus, designed to bring permanent way staff right up to date in their duties, includes every phase of permanent way work, covering renewals, maintenance, welding, prefabricated track, and office routine, theoretical and practical. Students spend their evenings seeing instructional films and organising discussions.

Model Engineering Exhibition Cup Winner.—For the second time in his only two attempts, Mr. Henry Powell, a foreman at Crewe Locomotive Works of the London Midland Region, has won the championship cup at the Model Engineering Exhibition in London, with his recently-completed *Duchess of Buccleuch*, modelled on the former L.M.S.R. Pacific locomotive. He is the only model locomotive engineer to win the trophy twice. Foreman Powell began model-making only ten years ago; his first cup-winning ¾-in. model, *Giggleswick*, was built in a spare bedroom by the light of a candle. The 1½-in. scale "Duchess" model with which he has gained his second success weighs 7 cwt., is 9 ft. 4½ in. long, and complete in every detail. There are 389 castings in the chassis. The only parts Foreman Powell bought were two injectors and a pressure gauge; all other parts were his own manufacture.

Argentine Import Controls.—The Argentine Central Bank has announced that in future all import permits must be submitted to the Bank for prior study. Last June the Bank had announced sweeping relaxation of trade controls, when it was stated that import permits would be issued "automatically" in the case of certain imports from Great Britain, Belgium, Spain, France, Holland, Italy, and certain South American countries.

New Indian Port.—It is reported that the Indian Government has accepted the West Coast Major Port Development Committee recommendation that Kandla on the southern coast of the Gulf of Cutch be developed into a major port. The report stated that Kandla could be developed in the first instance to handle between two and three million tons of cargo annually, and also suggested the construction of two railways, one 137 miles long, broad gauge, connecting Kandla with Jhund—near Virangam—to the east, and the other 174 miles long, metre gauge, connecting Kandla with Deesa to the north east. The two railways are estimated to cost £7,750,000.

British Railways Sports at York.—After a lapse of ten years, the Railway Institute sports meeting at York was resumed on August 28, on the York Railway Institute ground. The programme of events was divided into four parts, five British Railways Athletics Association Championships, seven North Eastern Region Athletics Association Championships, eight British Railways employees' handicaps; and for the juniors there were six handicaps for York school children and a half-mile relay race for youth clubs. All Regions were well represented in the competitions and many old friends of the meeting in the persons of officials and spectators, were present. Prizes were presented to the children by Mr. J. Taylor Thompson, Civil Engineer, North Eastern Region, and Mr. C. P. Hopkins, Chief Regional Officer, made the presentations to the adults. During the afternoon, a display was given by the ladies of the York Railway Institute gymnastic class; and the Barlow Challenge Cup, which was competed for by the York C. & W. Ambulance Association, was presented to the winner, Mr. J. Shanks, by Mr. C. P. Hopkins.

Northern Ireland Transport. — The Northern Ireland Ministry of Commerce has fixed October 1 as the appointed day for vesting the undertakings of the Northern Ireland Road Transport Board and of the Belfast & County Down Railway in the new Northern Ireland Transport Authority.

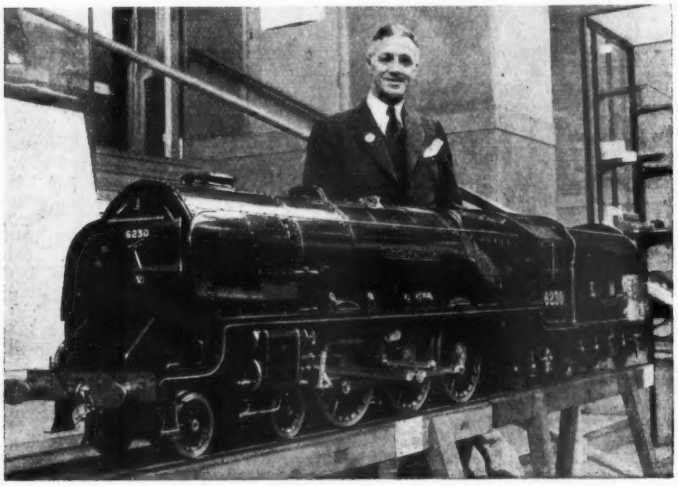
Metropolitan Graduate & Student Society.—The Institute of Transport, Metropolitan Graduate & Student Society has arranged the following meetings at 80, Portland Place, W.1: September 28, "The Functions of the Ministry of Transport," by Mr. H. Emery; October 26, "Carriage by Air," by Miss P. M. Powesland; November 23, Annual General Meeting, "Transport Staff Welfare," by Mr. J. Skegg; December 21, "Some Post-War Developments in Bus Facilities," by Mr. J. F. Parke; January 25, "Some Aspects of Handling Continental Passenger Traffic," by Mr. K. J. Lee; February 22, "A History of Labour Conditions in the Transport Industry," by Mr. A. R. Palser; March 29, "Power Signal Operation," by Mr. H. G. M. Viney.

Central Argentine Railway Limited.—A circular issued by the joint liquidators of the Central Argentine Railway Limited (in voluntary liquidation), addressed to holders of the 4½ per cent. preference stock, 6 per cent. cumulative preference stock, consolidated ordinary stock, and deferred stock, states that, in accordance with the provisions of the General Scheme of Arrangement, dated May 30, 1947, between the British-owned Argentine railway companies and their classes of creditors and members mentioned in the scheme, which scheme was duly sanctioned by Order of the Court, dated August 21, 1947, the Central Argentine Fund, as defined in part VI of the scheme, has been applied in redeeming, or making full provision for the redemption of, the loan capital of the company on the terms therein contained. Out of the balance of the Central Argentine Fund, the circular continues, a first and principal liquidation distribution will be paid to the stockholders as follows:—

—	Nominal amount of stock outstanding	Per cent. return on stock estimated in Scheme of Arrangement	Aggregate amount of first liquidation distribution	Amount of first liquidation distribution per £100 nominal amount of stock
	£		£	£ s. d.
4½ per cent pref.	9,695,718	32½	3,151,108	32 10 0
6 per cent. cum. pref.	5,000,000	37½	1,875,000	37 10 0
Consolidated ord.	28,186,960	21½	5,989,727	21 5 0
Deferred	811,800	15	121,770	15 0 0
		Total	£11,137,605	

It is pointed out in the circular that the amount of the first liquidation distribution is equal to the total amount estimated in the scheme to be available for distribution to the stockholders. In accordance with a notice published in the press, the

Model Engineering Championship Winner



Mr. Henry Powell, a foreman at Crewe Works, London Midland Region, with his cup-winning model of Pacific locomotive No. 6230 "Duchess of Buccleuch"

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

WANTED: Production Engineer for large Engineering Works in India engaged in the manufacture of boilers, locomotives, road rollers, rolling stock, etc. Salary in the scale Rs. 1,750/50/2,000 per month (£1,575/£45/£1,800 per year at present rate of exchange). Apply for full particulars and form of application to: MESSRS. TATA LIMITED. 18, Grosvenor Place, London, S.W.1.

FOR EXPORT, immediate delivery, unused Sentinel B.E.-type Industrial Steam Locomotive, 100-h.p., standard gauge.—Write Box 564, Dorland Advertising, 18/20, Regent Street, S.W.1.

THE RAILWAY HANDBOOK provides the railway student with a collection of useful statistics and information relating to the railways of Great Britain and Ireland. In addition, in matters of international interest, such as speed and electrification progress, the book extends its scope to cover the whole world in order to present a complete picture of these increasingly-important developments. 120 pp. Dy. 8vo. Paper covers. *Price* 5*s*. *By post* 5*s*. 3*d*.

New Zealand Government Railways

APPLICATIONS are invited for Assistant Engineers for Signalling work in the Signal and Electrical Branch of the New Zealand Government Railways. Applicants must be (*a*) Corporate Members of the Institution of Electrical Engineers, or (*b*) Graduates of the Institution of Electrical Engineers, or hold the degree of B.Sc. in Electrical Engineering or equivalent qualifications which exempt from the Graduateship examination of the Institution of Electrical Engineers. Applicants must be between the ages of 25 and 35 years.

The salaries attached to the positions are:

(*a*) A maximum of £875 per annum dependent upon qualifications and experience, for one position.

(*b*) A salary range of £425-£785 per annum dependent upon qualifications and experience, for two positions.

Applicants should have had training in the Signal Department of a British Railway Company or Signal Equipment Manufacturing Company. Experience in design and construction of A.C. and D.C. power signalling, preferably including relay interlocking as well as power frame installation, and be capable of designing circuits for such work. Some experience of railways operated by electric traction is also desirable.

Further details regarding these appointments and conditions in New Zealand, together with application forms, may be obtained from the office of the High Commissioner for New Zealand, 415, Strand, London, W.C.2, and applications, *in triplicate*, together with copies of testimonials also *in triplicate*, will be received by the High Commissioner for New Zealand not later than October 23, 1948.

Government of Iraq

APPLICATIONS from qualified candidates are invited for the following post:—

LOCOMOTIVE DRAUGHTSMAN required by the Iraqi State Railways for a tour of 3 years in the first instance. Salary Iraq Dinars 60 a month plus high cost-of-living allowance of between I.D. 15 and I.D. 20 a month, according to dependants (I.D.1 = £1). Free passages. Provident fund. Candidates must have served an apprenticeship in the workshop of a British Railway or firm of Locomotive Builders, and have a good knowledge of modern steam locomotive design and construction. A knowledge of diesel traction would be an advantage. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/12841 (3B) on both letter and envelope.

RAILWAY AMALGAMATION IN GREAT BRITAIN. By W. E. Simnett. An authoritative account of the course of railway amalgamation in Great Britain up to the end of 1923. Cloth. 8½ in. by 5½ in. 276 pp. 15*s*. *By post* 15*s*. 7*d*.

RAILWAY STORE METHODS. By W. H. Jarvis. Great Western Railway. The necessity for training officers—Organisation of stores department—Stores accounts. Cloth. 7½ in. by 5 in. 116 pp. With diagrams. 4*s*. *By post* 4*s*. 3*d*.

registers of the several classes of stockholders were finally closed on April 27, 1948; the above first liquidation distribution will be paid to stockholders on the respective registers at that date.

Coal Board Profit.—In the second quarter of this year the Coal Board made a larger profit than in the first quarter. This was due, however, to a further increase in the average price paid for coal, from 46s. 3·5d. in the first quarter to 47s. 1·9d. in the second. Costs also rose by 7·6d. a ton to 45s. 4·3d. The estimated surplus for the quarter, after providing for interest and interim income, was £1,002,828, compared with £501,154.

Productivity Committee.—On September 8 the Grand Council of the F.B.I. had under consideration the recent statement of the Chancellor of the Exchequer on productivity. Sir Frederick Bain, President, reported the discussions which he had had with Sir Stafford Cripps on this question, in the course of which, as was reported in our September 3 issue, the opinion was expressed that the matter should be handled each in their own spheres by employers and trade unions working along parallel lines. The action taken by the President was endorsed and it was decided to appoint at once a production committee to advise what further steps the F.B.I. should take. At the same time the Council reported its view that, inevitably, success would be limited so long as present restrictions on capital expenditure were maintained. Even within the limits prescribed by the balance of payments problems, industry could not safely be left much longer as the residuary legatee, whose claims for capital expenditure are the last to be made.

Hurst Nelson Annual Report.—Payment is recommended of a final ordinary dividend of 15 per cent., which will make 20 per cent., for the year ended July 17 last, and in addition the directors recommend a cash distribution of 7s. 6d. a share, free of tax, as against 10s., from a surplus from sales of investments. From the balance of this surplus a transfer of £50,000 is made to an ordinary share dividend equalisation fund. The net profit, subject to audit, amounts to £78,652, after charging £28,407 for repairs executed and providing £10,000 for depreciation. The balance carried forward is increased from £46,623 to £64,675.

Liverpool Street Electrification.—A major stage in the re-arrangement of tracks and signalling in connection with the Eastern Region electrification to Shenfield took place at Liverpool Street last week-end. Platforms 5 to 10 were in the hands of engineering staffs, and the use of No. 4 platform was limited. In consequence, most trains between Shenfield and Liverpool Street were diverted to and from Fenchurch Street on Sunday.

Indian Government Orders for Locomotives.—An announcement by Mr. K. C. Bakhle, Chief Commissioner of Railways, India, quoted by Reuters, states that the Indian Government is placing orders abroad for 390 locomotives. Mr. Bakhle, who recently returned from a tour of manufacturing centres in Europe and America, said that 270 of the locomotives were being ordered from Canada and the United States, 100 from Great Britain, and 20 from France.

Staggering City Working Hours.—To ease London travel conditions, the entire head-office staff of the Prudential Assurance Co. Ltd., at Holborn Bars, is to change its hours of work from October 4, when over 2,000 staff, who at present work from 9 a.m. to 5 p.m., will start at 8.45 a.m. and finish at 4.45 p.m. The change has been made by the direction of the Prudential at the request of the local transport group set up under the Ministry of Transport staggering campaign. London Transport states that the Prudential staggering move will ease road and rail travel at a number of points in the City and West End around 5 p.m.

Passenger Transport by Road and Rail.—The first meeting of the current session of the Manchester Centre of the Institute of Traffic Administration was held recently, when a debate took place on the respective merits of road and rail as passenger carriers. The debate was opened by Mr. R. M. C. Baschy, who stressed the importance of looking at the question from the point of view of striving to provide efficient passenger transport for the nation as a whole, rather than allowing the rival factions of road and rail to work for their own ends. It had to be determined what was the most suitable form of transport for the particular job. Mr. K. N. Sidebotham, speaking for rail, agreed that road and rail were complementary rather than competitive. Dealing with the questions under the headings of cost, speed, volume, safety, and the provision of specialised services, he concluded that in the long-distance field rail appeared to hold the advantage.

Edgar Allen Annual Meeting.—Record trading profits are reported by Edgar Allen & Co. Ltd. in respect of the last financial year. At the recent annual meeting, Mr. W. H. Higginbotham, Chairman, said that, despite the delays, controls, shortages, and other uncertainties inseparable from the conduct of business in this brave new world, their total turnover was higher by 34 per cent. than that of the previous year, and more than double that of 1938. The profit and loss account showed aggregate net revenue of £492,847, and, after making the necessary provisions for depreciation, staff pension scheme, etc., and providing £213,500 for tax, there remained a balance of taxed profits of £213,827. The directors had thought it prudent to set aside £100,000 as provision against increased cost of replacement of fixed assets. It has been decided to limit the dividend on the ordinary shares to the now customary rate of 12½ per cent., which will absorb £19,752, and, after making the usual appropriation of £20,000 to general reserve, there remains £80,291.

Murex Limited.—The trading profit for the 10 months ended April 30 was £526,190, which is £231,457 more than last year, taxation on the profits absorbing £220,000, against £58,000. The latter figure was arrived at after allowing for a refund of E.P.T. and a deduction of over-provisions in past years. The consolidated trading profits of the parent company and its subsidiaries were £695,828, which is an increase of £264,595 on the previous year, while the consolidated net profits represented 5 per cent. on the combined sales turnover. At the ordinary general meeting on August 30, Mr. George P. Joseph, Chairman, said that a marked improvement in the export orders of the parent company towards the end of the last financial year had been maintained

and the value of export sales for the period now under review showed an increase of 100 per cent. on the previous year. The demand for welding electrodes at home and abroad greatly exceeded the available supply. There had been ample confirmation of the existence among their employees of an appreciation for increased output. A final dividend of 2s. 1d. per £1 unit, making 3s. 4d. per £1 unit for the period, less tax, has been approved.

Longmoor Open Day.—This year's open day at the Royal Engineers' Transportation Centre, Longmoor, Liss, Hants, took place on Wednesday. Sir William Slim, who is Honorary Colonel of the R.E. (Tn.) Supplementary Reserve, with Members of the Railway Executive, were present, and we hope to publish an account of the function in next week's issue.

Western Region Excursions.—On Sunday, September 19, British Railways, Western Region, will issue third class cheap tickets to Brighton for a day excursion from Uxbridge at 8 a.m., calling at Cowley, West Drayton, Hayes, and Southall, and for a half-day excursion from High Wycombe at 11 a.m., which will call at Beaconsfield, Seer Green, and Gerrards Cross.

The Institution of Locomotive Engineers.—Lt.-Colonel H. Rudgard, O.B.E., Chief Officer, Motive Power, The Railway Executive, gave his Presidential Address to the Institution of Locomotive Engineers, held at the Institution of Mechanical Engineers, Storey's Gate, London, on Wednesday, and we hope to publish a report in next week's issue. The title of his address was: "The User of Locomotives for Revenue Earning."

Pullman Car Company.—An extraordinary general meeting of the Pullman Car Company has confirmed the proposal, which was reported in our August 20 issue, to increase the capital of the company to £737,500 by the creation of £500,000 of 4½ per cent. cumulative redeemable preference shares of £1 each. It is the present intention to issue about £380,000 of the new shares. Mr. Stanley S. Adams, Chairman, said they estimated that profits for the year ended September 30 would exceed £100,000 before providing for taxation and interest on the income stock.

Forthcoming Meetings

September 17 (*Fri.*).—Railway Correspondence & Travel Society, Birmingham Section, at the Imperial Hotel, Temple Street, Birmingham, at 7 p.m. "Light Railways," by Mr. R. L. Shepherd.

September 17-21.—Railway Students Association, London School of Economics & Political Science; Convention at Crewe Hall, Sheffield.

September 18 (*Sat.*).—The Permanent Way Institution, London and Manchester & Liverpool Sections. Visit to works of Taylor Bros. (Sandiacre) Limited.

September 21 (*Tues.*).—Institute of Traffic Administration, Merseyside Centre, at the Adelphi Hotel, Liverpool, at 7.30 p.m. Business meeting for members only.

September 25 (*Sat.*).—British Railways, Southern Region, Lecture & Debating Society. Visit to F. A. Secrett Limited, Intensive Cultivation Farm, Milford, Surrey.

September 25 (*Sat.*).—The Permanent Way Institution, London Section; demonstration of A.T.C. apparatus in the Western Region, British Railways.

Railway Stock Market

Stock markets have become very quiet, reflecting perplexity arising from international news, and, with buyers holding off, industrial shares and British Funds lost a little ground. The big feature has been the all-round advance in shares of road transport concerns following official news that Thomas Tilling is to receive nearly £25,000,000 for assets acquired by the British Transport Commission. This amount is up to highest estimates, and came as a surprise to the City, which had been assuming that no early announcement of the outcome of the lengthy negotiations between the company and the B.T.C. was likely. Immediate effect was a sharp advance in Tillings from 101s. 3d. to 118s. 9d., but profit-taking later brought the price back to 113s. 6d., and, subsequently, buyers concentrated on British Electric Traction deferred stock, which, as compared with a week ago, has advanced by no less than £240 to £1,860. So far as is known, there are no negotiations in progress between B.E.T. and British Transport, but the City is assuming that, in any case, B.E.T. should receive "compensation" for its transport assets on as good a basis as Thomas Tilling. Southdown Motor are 160s., as compared with 135s. a week ago, Aldershot Traction 140s., compared with 128s. 9d., and Rhondda Transport 73s. 9d. compared with 67s. 6d.

Buyers favour shares of the operating companies because a big return of capital seems probable, whereas in the case of Tillings and B.E.T., it can be expected that there will be only a partial capital return, remaining resources being used for the development of new business activities.

British Funds have been unable to move against the easier trend of markets, including the nationalisation stocks and British Transport 3 per cent. (1978-88), after changing hands up to the new high level of 99¼, eased to 99$_{16}^{1}$. Latest news of compensation payments in respect of Argentine railway stocks means that, before long, there will be at least £43 million more for reinvestment in stock markets. This helped to induce some more activity in Brazil rails, notably Great Western of Brazil ordinary and preferred shares, which both rose sharply to £5. Leopoldina was firmer at 11¼, with the preference stock at 36, the 4 per cent. debentures 68, and Leopoldina Terminal 5 per cent. debentures at 62. San Paulo recovered to 165, the view persisting that a total break-up value of at least £200 for the stock is not improbable, although this will depend on the ultimate decision of the amount of compensation for "unrecognised" capital. In other directions Antofagasta have eased to 10¾ and the preference stock to 63½ following publication of the full report. United of Havana 1906 debentures have been active around 16½. Awaiting the Central Uruguay meetings to approve the share-out scheme, Uruguay rail stocks were firm, and in other directions, Manila Railway "A" debentures were 88 and the preference shares 8s. 9d. Mexican Railway 6 per cent. debentures kept at 86½. French railway sterling bonds moved a point lower on balance. Canadian Pacific receded to 22⅝, and Beira Railway bearer shares have been firm at 62s. 6d.

Iron and steel shares remained generally steady, in spite of the belief that the nationalisation Bill will be introduced shortly. The latter may, however, remove a good deal of uncertainty as to whether only the sections of businesses actually producing iron and steel are to be taken over. Actual nationalisation, however, it continues to be pointed out, cannot be effected until 1950. Elsewhere, Beyer Peacock shares have changed hands at 22s., North British Locomotive at 23s. 6d., and Vulcan Foundry at close on 28s. Hurst Nelson have marked 84s. 4½d., and Charles Roberts were £7$_{16}^{5}$.

Traffic Table of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1946/47	No. of week	Aggregate traffics to date: Total 1947/8	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta ...	811	5.9.48	59,540	+ 7,338	36	1,899,040	+ 411,988
	Bolivar ...	174	July, 1948	$28,960	— $69,357	30	$471,287	— $301,893
	Brazil ...	—	—	—	—	—	—	—
	Cent. Uruguay	970	28.8.48	30,511	+ 1,763	8	273,004	— 16,845
	Costa Rica ...	281	July, 1948	41,632	+ 8,774	4	41,632	+ 8,774
	Dorada ...	70	July, 1948	33,466	+ 466	30	175,666	— 37,134
	G.W. of Brazil	1,040	4.9.48	26,000	— 3,200	35	1,134,300	+ 11,900
	Inter. Ctl. Amer.	794	July, 1948	$120,123	— $81,936	30	$1,095,789	— $796,960
	La Guaira ...	22¾	Aug. 1948	$95,776	— $1,298	35	$837,334	— $44,900
	Leopoldina ...	1,918	28.8.48	68,516	+ 2,597	34	1,901,366	— 383,139
	Midland Uruguay	319	July, 1948	23,017	+ 5,963	4	23,007	+ 5,963
	Nitrate ...	382	31.8.48	11,760	+ 1,696	35	202,016	+ 46,816
	N.W. of Uruguay	113	July, 1948	5,229	+ 1,766	4	5,229	+ 1,766
	Paraguay Cent.	274	3.9.48	G109,097	+ G39,942	9	G934,955	+ G501,838
	Peru Corp. ...	1,059	Aug, 1948	172,239	+ 2,746	9	351,181	+ 18,998
	Salvador ...	100	June, 1948	c121,000	+ c30,000	52	c2,020,600	+ c321,600
	San Paulo ...	153¼	—	—	—	—	—	—
	Taltal ...	156	Aug, 1948	5,495	+ 75	9	15,505	+ 4,500
	United of Havana	1,301	4.9.48	40,311	— 14,389	9	432,268	— 165,335
	Uruguay Northern	73	July, 1948	1,170	+ 33	4	1,170	+ 33
Canada	Canadian National	23,473	July, 1948	10,450,250	+ 943,000	30	67,566,250	+ 4,998,750
	Canadian Pacific	17,037	July, 1948	7,454,250	+ 524,000	30	47,661,750	+ 3,025,250
Various	Barsi Light† ...	202	Aug, 1948	22,485	— 3,832	22	136,492	— 4,155
	Beira ...	204	June, 1948	112,390	+ 12,957	38	1,048,644	+ 219,747
	Egyptian Delta	607	10.7.48	17,470	+ 929	14	178,422	+ 15,399
	Gold Coast ...	536	July, 1948	201,177	+ 49,765	17	867,019	+ 239,844
	Manila ...	—	—	—	—	—	—	—
	Mid. of W. Australia	277	June, 1948	26,319	+ 8,295	52	294,752	+ 80,772
	Nigeria ...	1,900	June, 1948	403,138	+ 91,614	13	1,292,292	+ 249,560
	Rhodesia ...	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	+ 612,938
	South Africa	13,347	14.8.48	1,353,260	+ 110,779	19	25,666,827	+ 1,451,152
	Victoria ...	4,774	May., 1948	1,439,718	+ 456,084	48	—	—

† Receipts are calculated @ 1s. 6d. to the rupee